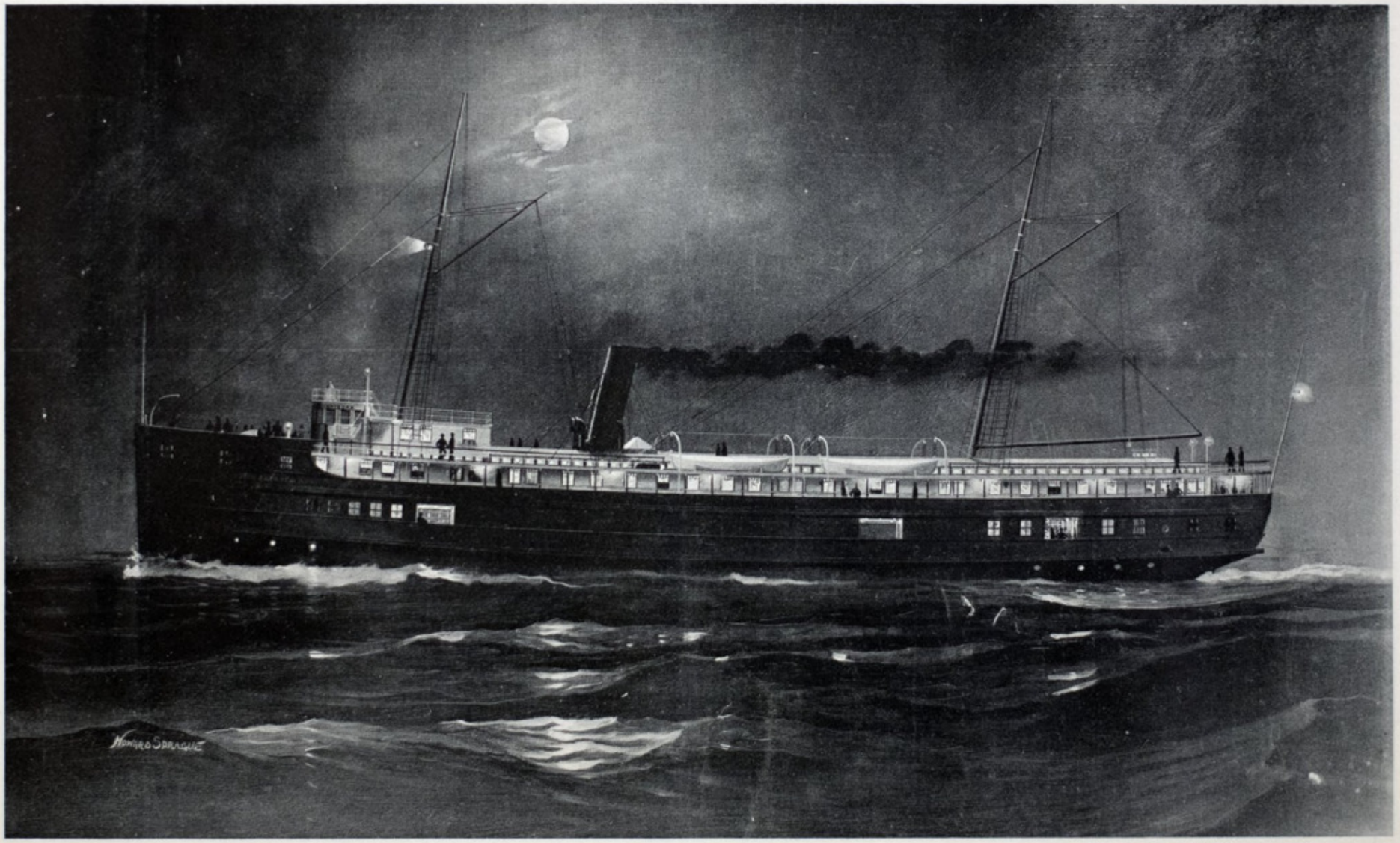


LIGHTED BY DETROIT ELECTRICAL WORKS, DETROIT, MICH.

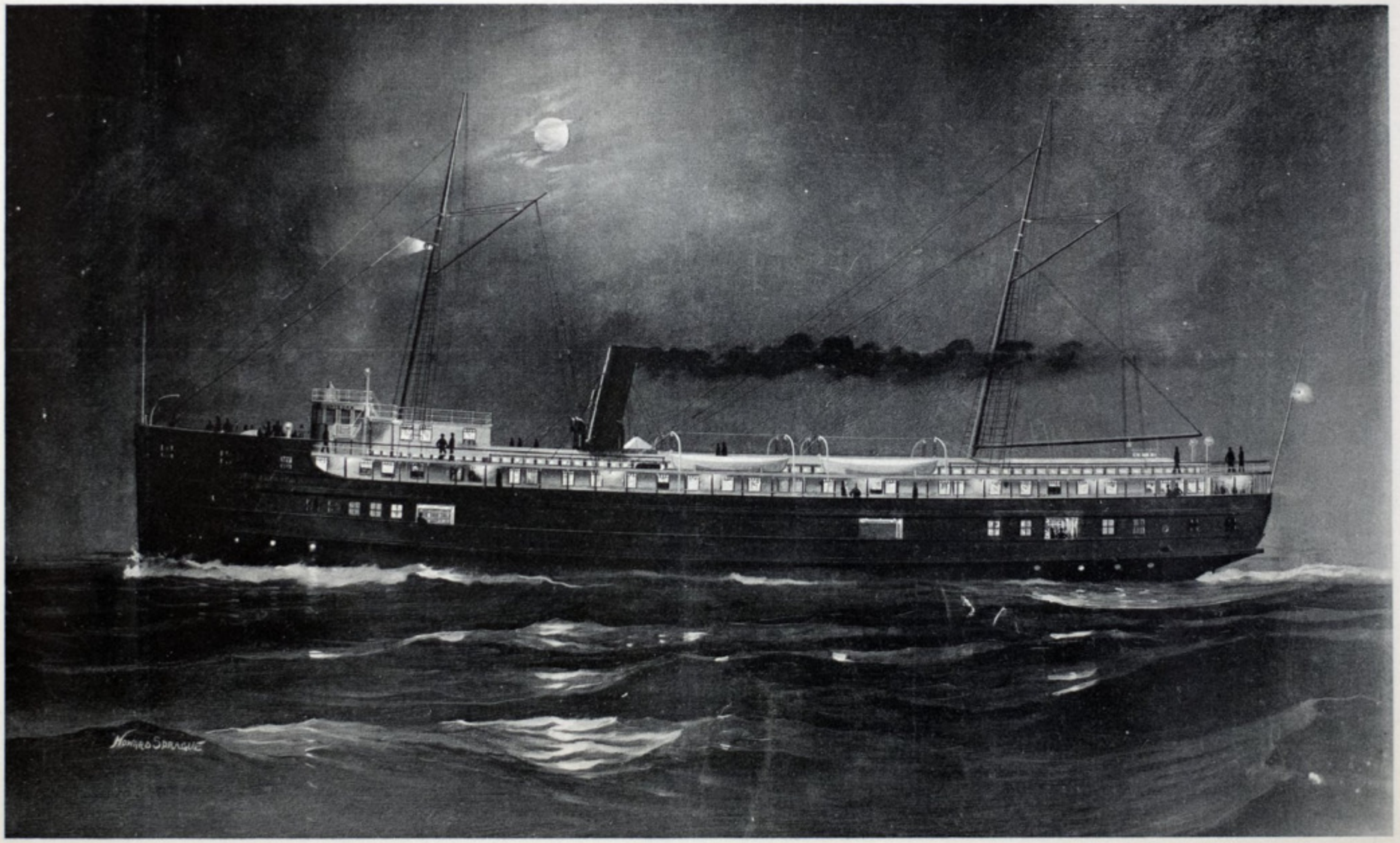
SUPPLEMENT TO THE MARINE RECORD, CLEVELAND, O.

MAIDEN TRIP: { Benton Harbor to Chicago, 63 miles; 3 hours, 21 minutes.

"CHICORA."

(GRAHAM & MORTON TRANSPORTATION CO.)

BUILT BY DETROIT DRY DOCK CO.



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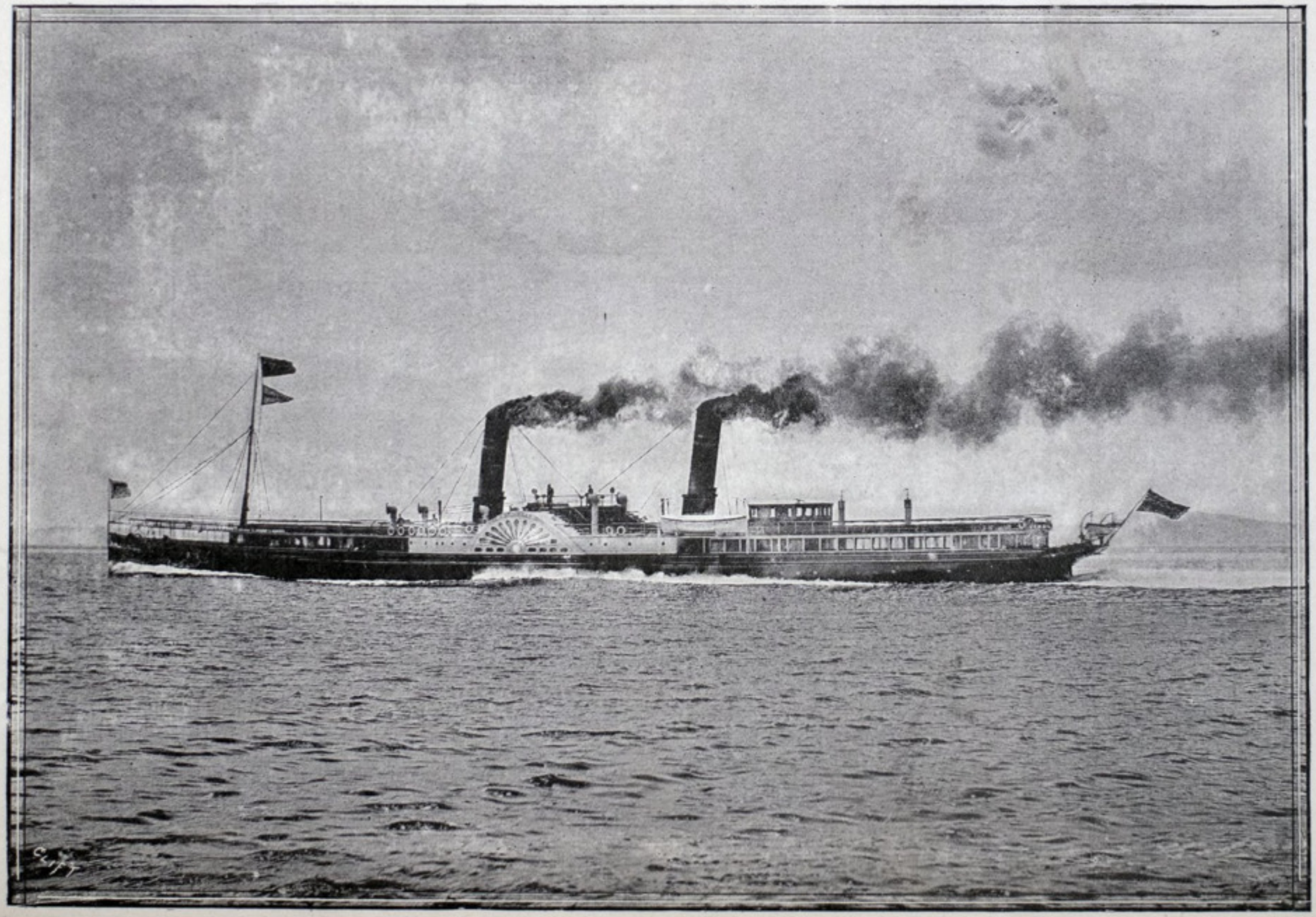

The New Paddle Steamer, "Koh-i-Noor," of the Victoria Steamboat Association, Ltd., London, built by the Fairfield Shipbuilding and Engineering Company, Glasgow.

ESTABLISHED 1878.

VOL. XV. CLEVELAND, OHIO, SEPTEMBER 1, 1892. NO. 36

THE HURONTARIO SHIP RAILWAY.

At the last session of the Ontario legislature an act was passed incorporating the Ontario Ship Railway Co The project of this company is to build a three-track railway from Toronto, on Lake Ontario, to Collingwood, on Georgian Bay, in Lake Huron, for the purpose of hauling lake vessels between those two points.

Simply stated, the plans provide for basins or docks at the terminals, which can be emptied and filled at will, and where the vessels can be floated on and off the enormous car designed to transport them. On the car the vessels will rest securely on cradles. The car itself will be drawn by six or more powerful locomotives.

The Ontario ship railway will be about 66 miles long, and will run from Collingwood, on Georgian Bay, to the mouth of a small river west of Toronto. Georgian bay is an arm of Lake Huron, and this ship railway would make a new route between Lake Huron and Lake Ontario, by cutting off the round-about course through Lake Huron, St. Clair river, Lake St. Clair, Detroit river, Lake Erie and the Welland canal, or any part of the route.

Immense adjustable cradles are fitted, or to be fitted, on three railway tracks of the standard guage, and by this means vessels of all forms or size may be conveyed from basin to basin.

The sole question is, whether it is practicable to transport an ordinary freight carrier over 66 miles of railroad and deposit her uninjured, not only once, but year after year. Of course vessels go on and come off a marine railroad, or slip, without injury; and by a careful adjustment of the cradles, it is somewhat difficult to understand why they can not be moved as successfully as when water-borne. But if this cannot be done with surety over a moving roadbed, as it were, ordinary vessels will not be risked by their owners in this kind of a journey, although perhaps the "whaleback" model, or a modification of same, might be found particularly adapted for such service, and if so, the comparative cost of building a railroad will not be permitted to stand in the way for a much longer period.

The Chignecto ship railway, which is placed at the boundary between New Brunswick and Nova Scotia, and spans the narrow isthmus between Chignecto bay, at the head of the Bay of Fundy and Northumberland straits, is far beyond being a mere enterprise on paper. Great sums have been laid out upon it, and even the machinery for lifting the ships has been built. Operations were suspended some years ago by the want of funds, but within a few weeks money for going on with the work is said to have been raised in London. Marine interests generally will eagerly watch the developments of the Chignecto system, and if successful, capital without stint will be found ready to invest in so plausible and time-saving a route as the Hurontario ship railway offers.

THE BRIDGING QUESTION IN CHICAGO RIVER.

Much complaint is made by the marine interests against the inaction of the War Department in the Chicago river cases, now in its hands. It was nearly a year ago when a complaint was first filed against the Fort Wayne Railroad Bridge as an unreasonable obstruction to navigation. Captain Marshall, the United States Engineer, investigated the complaint, and his report was to the effect that the bridge could be remodeled. Secretary Proctor sustained Captain Marshall's findings, and the Fort Wayne road was ordered to make the changes. Before anything had been done, however, Secretary Redfield Proctor resigned, and was succeeded by Secretary Steve C. Elkins. The company asked for a re-hearing, and from that time to this nothing has been done, so far as can be learned, with the case.

The railroad company is quite willing to let the case drag along until next year, when it can be pleaded that changes in the bridge will interfere with its World's Fair business. Marine men have suffered great delay all this season at the objectionable bridge, and now have no hope of any relief for the rest of the season. The same delay is experienced with the South Halsted street bridge. The Lake Line Agents' Association is unable to get a reply from the War Department in regard to what action is to be taken to stop the city from the construction of the proposed bridge. If the department does not act soon the marine men will apply for an injunction to stop the city from its construction.

A CHANCE FOR THE WEATHER-WISE.

The United States Weather Bureau desires to make as complete a collection of the weather proverbs of the United States as possible, and for that purpose is seeking the co-operation of citizens throughout the country. A distinction is asked to be made, when possible, between those of American origin and those which have been imported, the origin of each being given, when possible; whether Indian, Scotch, Irish, English, French or German, etc. A similar work was issued by the Department in 1883, by H. H. C. Dunwoody, under the direction of Gen. Hazen, Chief Signal Officer, U. S. A., and it is evidently expected that a great deal more lore may be added in the compilation of a new edition. All conceivable styles and theories of prognostications are contained in the former issue of "Weather Proverbs", the animal, mineral and vegetable kingdoms being called upon to contribute their quota.

A VESSEL REPORTING STATION.

According to an appropriation granted by the first session of the Fifty-second Congress, a sub-marine cable is now being laid between Thunder Bay Island and Middle Island, to connect by telephone with the weather bureau station at Alpena.

Superintendent E. L. Bugbee, in charge of the U. S. Weather Bureau telegraph lines, will carry out the work of connecting these important points, and in the near future an official vessel reporting telegraph station will no doubt be organized, so that all vessels passing by day, and by showing a distinguishing signal at night, may be reported to their owners from Alpena by wire.

EQUIPMENT OF THE PASSENGER STEAMER CHICORA.

In the outfit of the Graham & Morton, Lake Michigan passenger steamer, Chicora, there is found a series of modern equipments equal to the finest tonnage afloat.

The most thorough and perfect system of electric lighting has been furnished by the Detroit Electrical Works, and this firm having given special attention to marine work, the installation on the Chicora is claimed to be superior to any afloat on the lakes; and now after a fair trial it is pronounced most satisfactory. The standard equipment of modern steam windlass, and capstans, and pumps are from the best manufacturers in the trade, and the Worthington, Rumsey, the estate of Wm. Moses, and other well known names contribute to the outfit.

The entire ship chandler's equipment was furnished by H. D. Edwards & Co., and the magnificent saloon fittings and furnishings by the Leonard & Carter Furniture Co. The hard-wood finish and interior decorations by William Wright & Co. Painting and glazing by Whitney & Smith. Carpets and bedding by Newcomb, Endicott & Co. As all of the above firms are specialists in their line of goods and work, the best results have been obtained in all branches of the outfit.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN AND NORTHWESTERN LAKES.—WAUGOSHANCE LIGHT STATION.

Notice is hereby given that, on or about September 25, 1892, the color of the tower, dwelling and fog-signal house at Waugoshance Light-Station, northerly end of Lake Michigan, Michigan, will be changed from a dull brown to bright red and white, painted in alternate horizontal bands in such a way that the band immediately under the lantern gallery will be white, and that lower down the band of red shall cover the roof of the dwelling, leaving dwelling, tower and fog-signal house below the lower edge of the roof white.

The first band immediately under the gallery will be 8 feet wide, painted white; the second band 8 feet wide, painted red; the third band 9 feet wide, painted white; and the fourth band 11 feet wide, painted red, and will cover the roof of the dwelling. The gallery deck and lantern will remain black, as heretofore. By order of the Light House Board. JAMES A. GREER,
Rear Admiral U. S. Navy, Chairman.

FOR LIFE SAVERS.

One of the noble works inaugurated by the United Society of Christian Endeavor is the holding of religious services in Life Saving Stations in the United States and British Provinces. This feature was first introduced on the New Jersey coast through the instrumentality of Rev. S. Edward Young, of Asbury Park, and meetings have been held, it is stated with encouraging success. Rev. Mr. Young has also helped to secure through Congress better wages for the Life Savers, and they are especially thankful for the energetic interest he received in this work. The movement has been indorsed by Hon. Sumner I. Kimball, Superintendent of the Life Saving Service of the United States, and assumed international proportions when the cause was espoused by the thirty-five thousand delegates of Endeavorites who appointed an international committee to look after the interests of the work. There are 250 life saving stations in the United States, and a large number in the British Provinces, manned by brave men, and meetings will be held for them, and it is desired to extend the work to the whole world. The members of the committee residing at lake ports are C. F. Comstock, Milwaukee, Wis; Rev. A. J. Haugh, Cleveland, Ohio. C. L. Stevens, Ypsilanti, Michigan, and Rev. A. M. Phillips, Toronto, Ont.

A FIRE BOAT FOR DETROIT.

The managers of insurance companies and marine interests generally are very much pleased over the fact that Detroit is to have a fire boat to protect its river front. She is expected to be ready for service about next May. Bids have been received for her construction. The boat will be 110 feet over all, 16 feet beam and 8 feet draft The specifications require a guaranteed speed of sixteen and one half miles an hour. The capacity for throwing water will be enormous, and from the swivel nozel on top of the pilot house a stream four and a half inches in diameter will be thrown 240 feet, reaching a height of 160 or 170 feet, which would go completely over any structure along the docks. The boat is to have a large number of connections for hose, and will carry 5,000 feet of hose on the reels. The estimated cost of this valuable protection to property along the water front is to be about $35,000.

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers and improve the character of the service rendered to the public.

President: M. A. BRADLEY, - - Cleveland.

Vice-Presidents:

JOHN G. KEITH -	Chicago.	JAMES W. MILLER, -	Detroit
W. S. BRAINARD, -	Toledo.	F. J. FIRTH, -	Erie
R. P. FITZGERALD, -	Milwaukee	THOMAS WILSON, -	Cleveland
ALEXANDER MCDOUGALL	Duluth	P. P MILLER, - -	Buffalo

Secretary: CHARLES H KEEP, - Buffalo.
Treasurer: GEO. P. MCKAY, - - Cleveland.
Counsel: HARVEY D. GOULDER, - Cleveland.

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C. T. Morley,	Marine City	H. M. Hanna, - -	Cleveland.
Alvin Neal, - -	Port Huron	G. P. McKay, -	Cleveland.
James Davidson, -	Bay City	H. G. Dayton - -	Cleveland.
Charles A. Eddy -	Bay City	Harvey H Brown, -	Cleveland.
Alexander McDougal -	Duluth	J. W Moore, - -	Cleveland.
F. W. Gilchrist, -	Alpena.	B L. Pennington, -	Cleveland.
J. C. Gilchrist, -	Vermilion.	Henry C Hawgood, -	Cleveland.
J. L. Higgie, - -	Chicago	W. C Richardson, -	Cleveland.
Jesse Spaulding, -	Chicago.	S. D. Caldwell, - -	Buffalo.
J. S. Dunham, - -	Chicago.	Peter P Miller, -	Buffalo.
John Keith, - -	Chicago.	E. T Evans, - -	Buffalo.
Joseph Austrian -	Chicago.	James Ash, -	Buffalo.
David Vance, -	Milwaukee.	W. Bullard, - -	Buffalo.
R P. Fitzgerald, -	Milwaukee.	J. J. H Brown, -	Buffalo.
W. Livingstone, Jr, -	Detroit	W P Henry, - -	Buffalo.
James Millen, -	Detroit	John Gordon, - -	Buffalo.
David Carter, - -	Detroit.	W. S. Brainard, -	Toledo.
E M. Peck, -	Detroit.	L. S Sullivan, - -	Toledo.
D. C. Whitney, - -	Detroit.	A W. Colton, - -	Toledo.
H. S. Hodge, - -	Detroit.		

CLEVELAND, O.

Capt. N. E. Hoover has been appointed master of the steamer Margaret Olwill vice Capt. Ed. Kelley, resigned.

The Detroit and Cleveland Steam Navigation Co. give their usual annual basket picnic to shipping clerks on Monday, September 5th.

The Shipowners dry docks have been kept very busy during the past week, and the fall weather coming on, is likely to keep them still more busy up till the close of navigation.

J. W. Grover & Son, ship chandlers are fitting out the splendid steel steam yacht Commanche, built by the Globe Iron Works Co., to the order of H. M. Hanna, of this city.

The steam barge Kittie M. Forbes sprung a leak off this port on Tuesday, but reached the river in time to sink in about 14 feet of water. She will be pumped out and dry docked as early as possible.

John Lovering, for the underwriters, and Capt. C. E. Benham, for the owners, held a survey on the steam barge, H. C. Schnoor, at Sandusky Friday. The repair bill was placed at $1,500. She was damaged by fire.

The lighthouse tender Columbine, built at the yards of the Globe Iron Works Co,, for service on the coast, will be taken out on her trial trip today, and leave for her destination via. the St. Lawrence in a day or two.

Capt. Joe Gorman, late master of the New York steam yacht Lurline, has resigned his position to pilot the new lighthouse tender, Columbine, to the coast. Capt. Gorman also piloted the lighthouse tender Lilac down to the coast a few weeks ago.

On account of the death of the wife of Capt. William H. Cowan, master of the steamer John Mitchell, his steamer has been taken charge of for this trip by Capt. Alfred Mitchell, one of her owners, and a member of the firm of Mitchell & Co., vessel brokers and marine insurance agents.

Tests are being made by the local inspector this week of the plates used in the construction of the six boilers building by the Cleveland Ship Building Co,, for the large whaleback passenger steamer, now under construction at the yards of the American Steel Barge Co., West Superior, Wis.

It is a social outrage to destroy the best quarter of the public square, and the ears of the "great American hog" wobble conspicuously throughout the proceedings. Secondly. as "the sky pilots" say, it is sacriliege to down the "hero" of Lake Erie. and thirdly, the right of holding this breathing space inviolate belongs to the citizens, or whom?

Collector of Customs M. B. Gary a few days since informed the Treasury Department that the owners of the local tugs, John Gregory and Tom Maytham, had represented to him that their failure to have their boats inspected at the proper time was due to an oversight. On this showing he received from the department authority to remit to the owners of each tug all but $25 of the $500 in fines recently imposed.

Mr. John Thompson and Mr. Jackson have returned to business after having had a most enjoyable vacation. Mr. Jackson always pilots on these annual trips, and he insists on keeping his party well posted, so that they are punctually on hand at steamboat wharves or railroad depots an hour or two either before or after the boat or train is ready to start. The inimitable coolness of the pilot on such occasions takes the sting out of the wait.

Work is well being advanced at the yards of the Cleveland Ship Building Co., on the new freight monitor. being constructed on builders account. She will be one of the largest and most economical freight carriers on the lakes. Work on the new steel steamer contracted for by M. A. Bradley and others, is somewhat delayed on account of material not being received, but it is now in sight and extra gangs of men will be put to work in a few days.

CHICAGO, ILL.

Special Correspondence to the Marine Record.

The splendid steamer City of Venice, Captain A. A. Coe made her first trip to this port and left Saturday night with 102,042 bushels of wheat, the largest cargo of grain ever taken out of Chicago by a wooden built steamer. She was excellently built by James Davidson, the well known ship builder of Bay City and is one of the handsomest and best equipped steamers on the lakes.

The Independent Coal Dock Co., loaded 40 tons of coal on board of the steambarge Colin Campbell in 12 minutes last week with their McMyler derrick, across the deck of the steamer Otego which was laying at their dock inside of the Colin Campbell.

Captain Henry Consula, for nearly twenty years in command of tugs at Milwaukee, is now commanding the V. O. T. tug Thomas Wood—he got tired of Milwaukee, as it was too slow for a man of enterprise.

August Oleson mate of the schooner Evra Fuller, which was laying on the lumber market was thrown overboard by some dock rats about 1.30 a. m., Monday morning. The schooner had been laying at the market for several days, and the mate the night previous had driven some of them of the schooner, and they watched for him, and when he came up out of the cabin they seized him, and threw him overboard. The mate swam to the rudder chains, and held on until a Pinkerton watchman came along about a half an hour afterwards, and threw a rope to him and pulled him on the dock.

Lumber freights have advanced to thirteen shillings to Manistee, and twelve shillings to Ludington.

Harry S. Channon of the firm of H. Channon Co., ship chandler returned with his wife Sunday, from Europe, where they had spent their honeymoon.

George Warrington of the Vulcan Iron Works, is building a Warrington water tube boiler, No. 15, 4½ by 6 for the steam yacht Alcoyne.

Frank W. Wheeler, ship builder of West Bay City, is visiting Chicago this week.

Tht tug Alpha of the Chicago Dredging Company has been laid up, and Captain Hank Blue and her crew have been transferred to the tug Frank R. Crane.

The tug Gertrude and Alert of Green's Dredging Company are the only tugs in the river that are complying with the smoke ordinance by burning hard coal which seems to be the only way to solve the smoke nuisance. It costs their owners considerable additional expense.

The V. O. T. Co., C. T. Co., Dunhams Towing Company and the Independent Tug Co., were all summoned last week by the city officials representing the smoke nuisance. As no one appeared in defense of Dunham's line, nine of their tugs were fined $50. each. J. L. Higgie of the V. O. T. Co., Captain Harmon of the C. T. Co., and Captain Barry of the I. T. Co., were present. The V. O. T. Company's suit was the first called on against six of their tugs, and Captain Higgie stated that he had a smoke burner on board of his tugs which he had used for the last ten years, he having tested all kinds of smoke burners on his tugs, and invited Mr. George, the city official for smoke prevention and Mr. White of the Smoke Prevention Society to come down on board his tug Van Schaick and examine into the merits of his smoke preventor, They were on board the Van Schaick for several hours last Saturday afternoon and it was proved to them that the smoke burning device used on board consumed from 50 to 60 per cent. of the smoke, but even that did not satisfy them as they have to be answerable to the collars and cuffs assemblage comprised of real estate nen and others who come in from the suburbs and expect everything par excellence in a busy city. The case of the V. O. T. Co., C. T. Co., and I. T. Co., were continued until Wednesday next. If R. R. Companies and business firms were looked up, the tug line smoke nuisance would be found very small in comparison with them.

Grain freights Tuesday were 2¼ cents on wheat, 2 cents on corn to Buffalo, 3½ cents on corn to Kingston free of tolls.

It was reported here Tuesday that the steamer Rhoda Emily had lost her rudder on Lake Huron, and was laying at anchor off Saint Clair River. It was probable she would go to Dunford and Alversons dry dock at Port Huron for repairs.

Marine men, who have been waiting for the War Department to take some action in regard to the construction of the South Halsted street bridge, became somewhat anxious Friday over the delay; particularly as the city was going right ahead without paying any attention to the Federal Government's control over the river. A meeting of the Line Agent's Association was held, and President T. L. Morford was directed to send the following telegram to Secretary of War Elkins at Washington: "Contracts for building the South Halsted bridge are to be let without submission of the plans to the United States Engineer. Will you please take necessary action at once." The complaint of the marine interests against the city in regard to this bridge, is that the War Department had not passed upon the plans of the proposed structure, as required by the river and harbor act, and its construction, until that permission is obtained, is illegal.

Captain Charles Kohnert and others have sold the barge Constitution to the Shores Lumber Co., of Ashland. Capt. Kohnert paid $3,000 for the Constitution last spring. Capt. John Kelly, of Saginaw, has bought the schooner Halstead from John J. Keith for $13,000.

William Armstrong, manager of the Henry syndicate boats, was fined $100 to-day for serving as engineer on the stenmer Post Boy without a Government license. The regular engineer did not report for duty, and Armstrong took his place.

Captain J. L. Higgie, President of the Vessel Owners' Towing Company, is sanguine of the success of the smoke-preventing device on his tugs. He said yesterday that it was abating 60 per cent. of the smoke, and he was confident that even better results would be obtained after the crews became accustomed to it. "Notwithstanding all my efforts," Captain Higgie added, "the smoke society is steadily bringing complaints against my boats."

Two-thirds of the steam barge D. W. Powers has been purchased by the Shores lumber comqany, of Ashland, Wis. Captain Simon O'Day retains the other one-third interest and continues in command.

The schooner Constitution has been purchased ay the Shores lumber company of Ashland, Wis.

C. W. Elphicke & Co., and Arthur Orr have contracted with the Chicago Ship Building Company to build them a steel steamer, 290 feet over all, 41 feet beam, 24 feet 8 inch depth of hold, to be first-class in every respect, and supplied with incandescent electric lights. The King Iron Works, Buffalo will supply her with a triple expansion engine, 19.32 and 52 by 45, and two Scotch type boilers 12 by 12 to be allowed 160 pounds steam pressure. She is to be completed by April, 15, 1893.

WILLIAMS.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

The Merchants exchange harbor committee has taken action, recommending Congress to order a survey and computation of cost of the long breakwater southward to Stony Point instead of stopping at Sandcatch pier, as now proposed by the later plans of the district engineer.

The largest cargo ever carried on the lakes in a wooden boat was that of the City of Venice, which was built at West Bay City by James Davidson. It was of 102,042 bushels of wheat shipped by Rumsey & Lightner. The City of Venice is now the property of the syndicate, of which Edward Smith, of Brown & Co., the Buffalo vesselmen, is manager. With her big load she drew but 16 feet 2 inches.

The situation at this port may now be said to be again in its normal condition. Freight is moving freely on all the lines and the elevators are fast getting rid of their surplus grain.

The steamer Pilgrim last week replaced her Sutton wheel with one of the Trout pattern,

Sunday night a grain scooper went to sleep on the rail of the new tug Cascade, and rolled off into the water. He was rescued with difficulty by Capt. Hazen and others.

The new steamship building at Chicago, for Drake, Maytham and others, has been named the Thomas Maytham. She will be ready for business about November 1st.

The new whaleback Washburn, on her last trip here, discharged her package freight by hoisting through her hatchways. Her large gangways on the main deck were not opened. This would go to show that the difficulty of handling package freight on the whalebacks rather puts them out of the class of package freight carriers,

The new tug for Maytham's line has been named the Excelsior. She will be placed in service next Saturday,

A new canal tug named W. N. Peckham, came out Tuesday. She was built by William Hingston, is about 50 feet long, and has a 13x14 high pressure engine. She will run in the White Star Line.

The steamer Oregon was 60 bushels short on her wheat cargo,

A burglar invited himself into the residence of Capt. Frank D. Welcome on Tuesday morning, and after terrifying the nurse in charge of Mrs. Welcome, who was sick in bed, he simply went through the house, secured many valuables, and politely decamped after bidding adieu to the astonished occupants. The shock so unnerved Mrs. Welcome that it was thought prudent to remove her to the hospital, where she now is.

Union lumbershovers at Tonawanda had so much work that President Miller sent 60 men down there from Buffalo.

Thomas McGovern, of this city, was elected president of the Longshoremen's National Association, in session at Detroit last week. They are following the lead of the lumbershovers, and want to do away with the jobbers or stevedores. Their action may possibly precipitate another strike here.

Lieut. J. C. Moore, assistant inspector of the 9th district of the life saving service, arrived in Buffalo Tuesday to temporarily fill the place left vacant by the death of Çapt. D. P. Dobbins.

The big Anchor Line steamer, Susquehanna, this week visited port for the first time this season. Her boilers were inspected here.

The Canadian steamer Rosedale, which was compelled to cancel her charter for coal to Port William to avoid the payment of the 20 cent toll, which would be imposed going through the "Soo" canal, put on a new wheel here without going into dry dock,

Coal freights have been very weak since the strike, and are now rather shady at 55 cents to Chicago and Milwaukee. It is said several vessels have been offered at 50 cents, and that cargoes, though not chartered at that figure, have paid a rebate on the 55 cent rate to keep up an appearance of strength in freights. The coal movement showed activity Tuesday, for the first time since the strike,

The offices of the Lehigh Valley Transportation Co. have been moved from the corner of Seneca and Main streets, to the Potter building on lower Main street, where are also the offices of the Northern Steamship Co., and five other lines. This change is made to give General Manager Gordon, who takes charge of the Lehigh Valley Line Sept. 1, direct supervision of the offices of both companies.

THE BRIDGE QUESTION AT DULUTH.

Special Correspondence to The Marine Record.

DULUTH, MINN.—The movement of wheat out of here for the last week has not been so great as during preceding weeks, amounting only to about 190,000 bushels, while shipments were also light, a trifle less than the receipts. The stocks of wheat here now are increased a little for the week, being some 1,730,000 bushels, as against 1,703,000 a week ago. New wheat has begun to arrive in small quantity, about a dozen cars so far reported, but it is not expected that there will be any large receipts for three weeks yet. Threshing is not yet fairly under way in the district from which Duluth gets its supplies. Harvesting, however, is nearly completed along the line of the Northern Pacific road, and the outlook is for an excellent yield, as well as an excellent quality. Frost has not interfered at all, and all that the farmers think they need now is dry weather for their threshing. Wheat charters out of here have been dull also, and are now quoted at 3 cents; quite a little Canadian tonnage loaded here the last of last week for Kingston, in order to get through the Sault canal before the tolls go into effect, at 4 cents. Ore rates are said to be dull and weaker. There is a great deal of lumber to go forward, not only from Duluth, but from all Lake Superior ports, and rates are strong at $2.50 to Buffalo and Tonawanda, and $3 to Lake Michigan. The amount of coal now coming up is very large, and the season's tonnage at the head of Lake Superior will be larger than ever, but rates are weak and low.

Considerable tonnage that has been in the wheat trade to Buffalo, has been turned by the late strikes in that city to the ore trade, and the output of the Minnesota Co.'s mines has therefore been increased. Shipments of the season to date have been 740,000 gross tons, of which last week sent out 48,000 tons. There remain three months of navigation, in which the comqany's allotment was 480,000 tons; if this is all sent out, as now appears likely, the total shipments of the year will be 1,220,000 tons, or about 250,000 tons ahead of last year.

The Duluth City Council takes up the question of the proposed canal bridge again this evening. There is no unanimity of opinion, locally, as to the desirability of a bridge, though all experts seem to claim that the city has a perfect right to go ahead with a bridge, asking no permission of the general government. Just what is likely to be done this evening, your correspondent can only surmise. Probably the Board of Works will be authorized to go ahead and advertise for bids for building a bridge, on the lift plan, as designed by Engineer Waddell, of Kansas City. It is expected to cost $180,000, of which the property directly benefitted, that below the canal, will pay two-thirds, and the city proper, and one or two railways that will use it, the remaining third. The lift bridge is designed to weigh 500 tons, and will lift 175 feet on towers that will support counter-balances of the same weight. It will lift the entire height in two minutes, and will be operated by electric machinery.

The owners of the steamer D. W. Rust, have filed a libel suit in the United States Supreme Court here, to recover $1,276 from the Lake Superior Elevator Company for damages and delay caused by the trestle between the elevators falling on the steamer Rust during the storm of May 19. D. E. W.

GOSSIP FROM CANADA.

Special Correspondence to The Marine Record.

TORONTO, CANADA.—There is a great diversity of view even among marine men at this port, with regard to the imposition of tolls on the St. Mary's Falls Canal by President Harrison against all freight bound for Canadian ports, Some agree that the procedure is quite justifiable on the part of the United States, whilst others maintain loudly that it is a violation of the treaty rights which should not be tolerated by Britain, not to mention Canada. Meantime work on the Canadian Sault Canal will rush.

Divers vessel owners have informed me that Mr. Geddes is mistaken in what he said about the exclusive privileges enjoyed by British-registered ships, published in last week's MARINE RECORD. Captain Solomon Sylvester is one of our most representative marine men, besides being a gentleman who carefully studies all international questions. I had an interview with Captain Sylvester which will prove of interest:

"In which manner," he asked, "could the Algonquin, being a ship sailing under a British register, demand different treatment in the American Sault Canal from that given to Colonial vessels? That is, of course, assuming that the treaty under which canal privileges, and so forth, were granted between the United States and Canada was ratified by the Imperial Government, which undoubtedly leaves them a party to the agreement. That being the case, we think that Mr. Geddes might, for the information of his vessel-owning brethren, make us aware wherein all claims for a difference lie. I am sure he is mistaken."

"What do you think will be the effect of the President's action?"

"It certainly won't have the effect to increase trade by way of the St. Lawrence route?" He replied, "It will considerably decrease it. The great bulk of Canadian tonnage trades to the western lakes, and particularly to Lake Superior. The object of the Dominion Government in granting the rebate on grain cargoes transshipped at Kingston was to encourage trade by the way of Montreal, and it was rendered necessary by the keen competition in rates between, New York, Baltimore and Boston. The rebate is 18 cents a ton, but the imposition of a toll of 20 cents a ton on cargoes passing through the Soo Canal leaves us in a position of being 20 cents a ton worse off than before the rebate was granted on grain from Lake Superior. Of course there is always a percentage of grain coming by way of Lake Huron and Lake Erie, but 90 per cent of the grain from Toledo and Detroit which comes in by rail from the tributary country goes to Kingston in American bottoms.

"The most practical way of getting out of the difficulty would, in my opinion, be to call an international convention or conference, to discuss the questions of difference, and in the interest of the shipping trade of both countries, arrive at some agreement wherein no injustice would be done to either craft or channels, or cities in the west or in all the east. If that were done the petty bickering between the two Governments would be stopped and trade would be placed on a permanent basis. These changes in policy have a very injurious effect on business. They unsettle trade and interfere with contracts. Business men are in a constant state of unrest, because they never know when a change is to be made that will upset their plans."

"How do you regard the action of the Dominion Government in declaring to abolish the rebate at the end of the season?"

"They have been going to do that for years. We have been obliged to petition them from day to day to have them continue the rebate, believing then, as we do now, that it was not a violation of article 27 of the Washington treaty. I would suggest a conference at Ottawa or Washington to consider the points of difference between the two Governments.

"The President's action will have an injurious effect upon the Canadian Lake trade generally, but Montreal will be the greater sufferer, and in that predicament it now behoves that city to do something for themselves in the way of inducing trade to go by their channel. I think if they were to look around and see what charges are imposed in the way of harbor tolls, etc., at Montreal, and compare them with those at other points they will find that they are very burdensome. Let them abolish the harbor tolls on cargo and vessel, which amount to a great deal, the cargo toll alone being 25 cents per ton, and that would enable vesselmen to better meet the loss of the 18 cents per ton rebate which the Dominion Government now allows. If a vessel is delayed long in the port of Montreal, her different dues soon mount up to hundreds of dollars."

"Have the Montreal people done anything to further the interest of the inland marine trade?"

"Montreal still imposes all her tolls. The Federal Government should have stipulated when they undertook to pay the money spent on the river channel that Montreal should be a free port." J. A. C.

NEWSY DETROIT ITEMS.

Special Correspondence to The Marine Record.

DETROIT, MICH.—Thomas Murphy, the wrecker has completed the task of raising the steamer "Progress."

The Detroit Sheet Metal & Brass Works, one of the largest firms of copper-smiths on the lakes, are now making a great specialty of brass furniture set off with onyx.

The Davis Boat & Oar Co. of this city, who by the way have a very fine exhibit at the exposition, have just closed a contract for the building of a steam yacht the coming winter for some Chicago capitalist, who is spending the summer at Mackinac, from which point, Mr. E. A. Davis has just returned with a contract for the vessel, delivered with complete outfit at as early a date in 1893 as possible.

Although Hon. S. B. Grummond has added to his many occupations, both public and private the acceptance of the position of President of the "Board of Police Commissioners" for the city, a place to which he was appointed by Mayor Pingree but a short time ago, he still has time to and does give personal attention to almost all the details of his large passenger, freight, wrecking and towing business.

The old store formerly occupied by the well known firm of Teuton, McWilliams & Co., marine grocers, which was destroyed by a gas explosion some months since, and which is being rebuilt, is rapidly approaching completion, when they will move back into it from their present temporary quarters.

The steamer Chas. F. Bielman, named after the hustling passenger agent of the Star Line Steamers, passed up last Sunday, and although light, made a fine appearance.

A. Brady Wendell, the designer of the fast yacht, "City of the Straits" and owner of nearly a score of boats, at least three of which class as yachts, and altogether the best known all-round yachtsman in these waters, has during the past week caused a sensation in society circles by the announcement of his engagement to the daughter of Levi T. Griffin, who was on the eve of being married to an eastern gentleman. Mr. Wendell is the son of the president of the First National Bank of this city, and is widely and favorably known in marine circles in this state.

Isaac Watt and Thomas F. Hayes, both of Windsor, Ontario, Aaron A. Parker, Byron Parker and James W. Millen of Detroit will incorporate as the Isaac Watt Wrecking company (limited), with headquarters at Windsor and a capital of $20,000.

The number of passengers being carried this season by the Detroit, Belle Isle & Windsor Ferry Co., to and from the Island, Des-Chree-Sho-Ska and the other river points, to say nothing of the score or more of excursions they run weekly is far in excess of any former years business. This is largely if not wholly due to the constant advertising done by the present management of the company, in addition to the improved facilities they now have for carrying passengers. Their ferry-steamer Promise, built by the Detroit Dry Dock Co., is by long odds the best open pleasure steamer on fresh waters.

It is understood that the business of the late Jno. Hurley, including his interest in the firm of J. & T. Hurley, fuelingmen and steam-boat owners, will be closed out entirely to Timothy Hurley. The wide diversity of their interests are such, however, that it may be some months before the old firm name dissappears from common usage.

The business done by the steamer, Riverside, owned by Ashley & Dustin is of such magnitude, on the Detroit & Wyandotte route this season, that they daily bewail their present inadequate facility for handling the passenger traffic. This with the advent of their new steel steamer which is about completed at the yards of the Detroit Dry Dock Co., will be done away with, and the route made pleasant and all as it should be.

The fast steamer "Frank E. Kirby" on the Put-in-Bay route came out this season with new carpets throughout, together with other furnishings that make her a palace indeed. It is scarcely necessary to remark that she is carrying her full capacity to and from the Islands daily. Toledo people are learning that as pleasant a day may be put in on the run from Toledo to Detroit and return by way of the Star Line, Steamer Idlewild, as can well be imagined. The amount of freight, package goods, and manufactured articles handled on this route to Toledo and local northern Ohio points yearly increases.

Owing to the increased popularity of the hotel at the down river resorts with the unmentionable name of Des-Chree-Sho-Ska run by E. H. Gilman, and where a supper for a dollar may be had, that is equal to any American hotel table; the Star Island house at the flats is not booming as formerly and the four o'clock boat out of Detroit does not carry the crowds it did in former seasons to the cheap fish supper served at the latter place.

The Canadian wrecker Saginaw has received a thorough rebuild and is about ready for service. Her equipment and wrecking ability are much better than before she was burned. Parker & Miller are agents for the Saginaw, which is owned by a company incorporated in Canada.

The wrecking tug Favorite towed the H. D Coffinberry successfully from Sand Beach to Port Huron dry dock.

The contract for the new fireboat for service at this port has been secured by the Craig Ship Building Co. of Toledo, O. J. P. Manning, of Cleveland, will furnish the pumps.

THE LATEST ADDITION TO THE U. S. NAVY.

The latest addition to our new steel navy, was launched August 11, from City Point Works, Boston, and is being rapidly put in shape for actual service. The "Marblehead" as she was christened, is the third and last of the 2,000 ton steel cruisers authorized by the Act of Congress of September 7, 1888, to be launched. The first of these three "second-class partially protected cruisers" the Detroit, was launched at Baltimore, on October 28 last year. The second one put into the water was the Montgomery, at Baltimore, on December 5 following. The longer time to get the Marblehead ready to go into the water was due to the fact that she was not begun so soon as the others, and also to the suspension of the firm of Harrison Loring, the contractors, and the consequent delay in the appointment of assignees, who have since carried on the work of the government at that establishment.

The Marblehead and her sister ships will probably be among the most useful additions to our navy. Their size is such as to make them both useful and economical vessels. They each have two masts aad are schooner rigged.

The principal dimensions of the cruisers are: Length on water-line 257 feet, beam 37 feet, draught 14½ feet, displacement 2,000 tons, maximum horse-power 5,400, speed 17 knots.

The motive power is provided by triple expansion engines, of the vertical inverted type, one on each side of the vessel and connected with each of the twin screws. They may be run at a maximum speed of 185 revolutions a minute. Below the steel protection deck, in water-tight compartments are three double-ended main boilers and two auxiliary boilers for working the heating, ventilating, pumping, and other light machinery. The vessel has a bunker capacity for 435 tons of coal, which may be so distributed as to secure the best possible protection to engines and boilers. The vessel has no armor plating, so defined, but her protective deck, which starts at a point below the water-line at the sides, curves upwards amidships, and is eleven-sixteenths of an inch thick on the slopes, nine-sixteenths on the level over the machinery, and slightly thinner at the ends. This deck is intended to give protection to the machinery, magazine and steering-gear, against the fire from machine guns. The conning tower is constructed of two-inch mild steel.

The battery will consist of two six-inch breech-loading rifles, one mounted forward on the forecastle, and the other aft on the poop deck, the screws being protected from the enemies fire by steel shields so inclined that the shot striking them will be deflected; eight five inch breech-loading rifles, mounted in sponsons, four on each side of the ship, six six pounder, and two one pounder rapid firing guns, and two Gatling guns. Among the novel features of the vessel are coffer-dams, extending nearly the entire length of the ship on each side of the water-tight deck. These will be filled with cellulose, a water-excluding material manufactured from the fibre of the cocoanut. The particular value of this material lies in its tendency, in fact its ability, to close holes pierced by shot from the guns of an enemy. The Wheeler Condenser & Engineering Company furnished the new cruiser with their excellent condensers for the auxiliary engines.

A FEW "DON'TS."

Our esteemed contemporary, *The Industrial World & Iron Worker* has compiled the following pertinent don'ts. Engineers often in packing a valve or piston rod hammer their packing flat, if it happened to be a little large, so it will go into the gland. This practice cuts the strands of the packing and injures it. A better way is to squeeze it out as flat as desired in a vise. Don't hammer it much. If the jaws of the vice are too short for this work, false jaws of wood or metal can easily be made.

Don't go working around shafting with anything that can possibly catch in the belts, pulleys or couplings. If you wear an apron take it off when at this business as it is a trap, for if the material does not give way you are liable to go sailing around the shaft, not a very pleasant journey to contemplate. Don't wear a jacket or shirt with ragged sleeves, or in fact any possible projections that could tempt the revolving set screws or key-ways. Of course no such things should be around a shaft, the day for that is past, but do not be careless even if there are no such traps around the shop.

Don't leave a pipe that has caught on by a couple of threads only, because it does not happen to leak. Some day it will give way and may result fatally, besides causing much damage.

Don't spring pipes to make them come into position to make connections. A stress is brought upon the threads which, together with the expansion and contraction of the pipe, may cause trouble.

Don't think that because there are no signs of trouble that a boiler is all right. Eternal vigilance must be observed. A boiler does not give notice beforehand that something unexpected is going to happen. Don't neglect to watch for possible trouble.

Don't let the water connection to your water column go without blowing out at regular intervals. Water columns have been known to show considerable water when there was very little water in the boiler.

Don't think because the tubes are clean that is all that is needed, and leave the shell covered with soot. Too many engineers neglect to clean the boiler shells. This is the most efficient portion of the heating surface.

Don't leave your furnace doors open for two or three minutes when you fire. Air that enters there does nothing but cool down the boiler, and plenty of it enters, as there is a strong draft and no obstruction.

IMPROVEMENT IN STEAM SEPARATORS.

With the constant and growing demand among engineers for *ary steam* in connection with all power plants, the inventive genius of the engineer has kept pace in providing separators of various designs and merit that may be connected into the main steam pipe to engine for the purpose of separating the water, oil or dirt from the steam, that dry steam, free from foreign substances, may be supplied to engine.

Among the various appliances for the purpose stated above, the steam separator manufartured by the Stratton Separator Company, 32 Cortlandt Street, New York, has won for itself a high place in the estimation of engineers throughout the country, that could only be obtained by the real and undoubted merit of the aparatus.

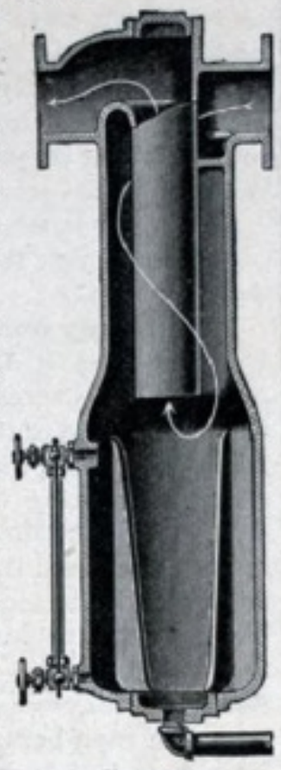

FIG. 1.

The Stratton Separator is based on the principle that if a rotative motion is imparted to the steam as it enters the separator, all the liquid particles it may contain, being heavier than the steam, acquire centrifugal force, and are projected to the outside of the current. Practical results have proven this theory to be correct, but in some cases where high pressures of steam are used, it was found that the water guage on side of separator would show full of water, while steam would blow out of drain pipe at bottom. While this proves the centrifugal principle of the separator, the force was so great as to hold about the interior walls of chamber a volume of water whirling so rapidly as to be hollow in the center, allowing steam to blow out of the drain pipe.

To meet this slight objection, the Stratton Company have patented an improvement, as shown in the accompanying cuts, and briefly described as being a centrifugal steam separator, provided with wings or plates projecting from the interior surface of the well chamber at an acute angle therewith, and to the course of steam or water, thus breaking the whirling body of water, and allowing it to settle quietly in bottom of separator chamber, from whence it can be drained.

Figure 1 of above illustrations shows horizontal view of separator in section, and Figure 2 cross section of water chamber showing wings or plates placed at an acute angle to current of the water as described.

FIG. 2.

The Stratton Separator, long favorably known, has gained greatly by the improvement as explained and illustrated herewith, making it to-day, without question, the best and most efficient apparatus yet devised for extracting all entrained water, that *steam absolutely dry* may be supplied to the engine.

SUMMARY OF THE WORLD'S TONNAGE.

According to the *Repertoire General* for 1889-90, the total tonnage of the world, including forty-seven countries and one unknown vessel or nationality, there was, at the time of the compilation of the report, 10,469 steamers, having a gross tonnage of 12,087,335, and 7,820,907 net tons; sailing vessels numbered 37,955, with a net tonnage of 11,095,284, giving a total for the world of 18,916,191 net tons.

A BUFFALO SHIPYARD SECURES A GOVERNMENT CONTRACT.

The Union Dry Dock Co., of Buffalo, N. Y., has been awarded the contract to build a revenue cutter for service at Chicago, Ill., and Superintendent Edward Gaskin will no doubt turn out even a superior vessel than the usual strict specifications of Department orders require.

The new steamer will be used for boarding purposes at the port of Chicago, and the contract calls for her delivery on May 1, 1893. The general dimensions of the cutter for which Congress has appropriated $40,000, will be 94 feet, 6 inches over all; 20 feet, 6 inches beam; and 10 feet, 3 inches depth of hold. She will have a fore and aft compound engine, 18½″ by 32″, with 26″ stroke and a Ward boiler 11 feet, 6 inches in diameter. Work on the new contract will be commenced at once, and the steamer will be ready to turn over to the Department punctually on contract time. There will be any quantity of work for her to attend to at Chicago, on the early opening of the World's Columbian Exposition next spring.

MARITIME LAW.

ELEMENTS OF SALVAGE—PREVENTION OF DAMAGE TO PROPERTY OF OTHERS. STEBBINS V. FIVE MUD SCOWS.

U. S. District Court, Southern District of New York.

When a vessel has gone adrift through negligence, and is liable to injure the property of others, the saving her owners from any such damage that they might be called upon to pay should be taken into account in determining the amount of a salvage award.

In this case seven hundred and fifty dollars salvage was awarded a tug worth fifteen thousand dollars for picking up scows worth thirty thousand dollars, adrift through the negligence of the owner in the Harlem river, and liable to collide with and injure other property.

TUG AND TOW—COLLISION WITH PIER—NEGLIGENT RISK OF UNSEEN PROJECTION. PROVOST V. STEAMTUG ARCHIE CROSSMAN.

U. S. District Court, Southern District of New York.

A tug, with a canal boat alongside, rounded to below an abutment of a bridge, on the flood tide, in order to make a landing. Her tow sagged against the abutment, and a projection below the water line injured the canal boat so that she afterwards sank. The court found that the tow was suffered to drift against the pier by miscalculaton on the part of the tug, and therefore *held* that by such negligence the tug took any risk arising from any projection or other cause of damage, known or unknown, and was therefore liable for the loss of the canal boat.

DEMURRAGE—FAILURE TO FURNISH BERTH—CUSTOM. SMITH V. NEW YORK GRANITE PAVING BLOCK CO.

U. S. District Court Southern District of New York.

The bill of lading under which a vessel carried a cargo of paving stones provided "that forty eight hours after arrival at the port named in the bill of lading and notice thereof to the consignees named, there shall be allowed for receiving such cargo one day for every seventy-five tons thereof, after which the cargo shall pay demurrage, etc." The vessel duly reported on July 24, but the consignees did not give her a birth until August 7. On suit brought to recover demurrage for that period, respondent claimed that there was no obligation on them to find the vessel a berth. *Held*, that while it is the ship's business to find a berth in the absence of any custom or evidence to the contrary, the circumstances of this case, and the construction evidently given to the bill of Lading by both parties, showed that consignees were expected to furnish the berth. Libellant was therefore *held* entitled to recover.

NOTES.

Among the most valuable, and at the same time interesting, of the minor exhibits at the Great Fair in Chicago, will be a set of water color, and pastel paintings of Salem vessels from 1765 to the present time. These pictures will be prepared by the Essex Institute and Museum, of Salem, Mass.

The Almy Water Tube Boiler Co., of Providence, R. I., are constructing for steam yacht "Avenel" one of their patent sectional water tube boilers, of the double tube type, having two furnaces, to carry 225 pounds steam pressure. This boiler will be capable of furnishing steam to quadruple engine of 645 I. H. P.

Capt. Wm. W. Bates, ex-Commissioner of Navigation, has moved from Washington, D. C., to New York City, and will shortly issue a valuable work on the rise and fall of United States shipping in the over-sea trade. Capt. Bates is thoroughly well qualified to handle this subject, and the friends of American shipping eagerly await the production of this masterpiece of technical literature.

In the Province of Ontario there were in 1889, 1,353 vessels, or 689 steamers, and 664 sailing vessels. These ships represented the ownership of lake tonnage under the Dominion flag, having a total net tonnage of 141,839, 85,029 of which was the gross tonnage of steamers. Including the several provinces of New Brunswick, Nova Scotia, Quebec, Ontario, Prince Edward Island, British Columbia and Manitoba, there were, according to the latest compilation, 7,153 vessels, of which 1,348 were steamers, with a gross tonnage of 205,632, and a total net tonnage of both sail and steam, of 1,042,481.

Prof. Rolla B. Carpenter, of Cornell University, has issued a work on Experimental Engineering, which is really a third edition of the author's Notes to Mechanical Laboratory Practice, first published in 1890. This book has been entirely re-written, however, and very much enlarged, so that the change in the title is amply justified. In its present form it has 250 illustrations, and nearly 700 pages; and it is very comprehensive. The author says it is intended, primarily, for use in engineering laboratories; but perhaps he is too modest in this assertion. The greater part of it will be useful to any mechanical engineer. (Published by John Wiley & Sons, New York.)

A PIONEER LAKE ENGINEER.

JOHN N. PHILLIPS.

It is a pleasure to chronicle the integrity of purpose and honest life-long service of any one connected with the mercantile marine interests of the country, but, the record of a well known pioneer engineer in the Lake service, is of more than ordinary interest to the able class of skilled mechanics now c rrying out in their own sphere the grand destiny of the commerce of the Great Lakes.

The subject of our brief sketch can lay claim to the most lengthy and continuous lake service as a marine engineer, of any one now sailing, although Mr. John Mayberry, of Buffalo, with his 39 years of service, and Mr. J. P. Worden, at present chief engineer of the steamer Idlewild, crowd up close to Mr. Phillip's record, and as the trio of pioneers in the craft are still well to the fore, the half century mile stone is clearly within the reach of each of them.

In giving a brief synopsis of the career of John N. Phillips we note that the current year makes the 40th continuous and consecutive season for him to have sailed without missing a trip; or, in fact being off duty a single watch during all this time. This record, we believe, is unparalleled on the lakes, rivers, or ocean, and speaks in high terms of the abstemious character of this well-known engineer.

Commencing his nautical career in 1853, Mr. Phillips joined the steamer Cincinnati as first assistant engineer, with Mr. Leland now residing in Chicago, as chief. A year later he joined the St. Nicholas as first engineer. In 1885-6 he was chief of the propeller Kentucky, and in 1857 he was promoted to the new propeller Dubuque, the above named steamers being then known as the Oswego Line. In 1858, Mr. Phillips entered the employ of the Northern Transportation Co., at that time the famous steamboat line of the lakes. Here he served his first three years as chief engineer in the propeller Ogdensburg, and when the propeller Empire was built, the company placed him as chief of her, where he remained until 1865, when he was transferred to the steamer Maine, and after four years' service was again transferred to the new steamer City of Toledo, where he remained to complete a record of thirteen years' continuous service in the employ.

We next find the veteran engineer in 1871-2 chief of the tug Sampson; in 1873-4 in the steamer Glasgow; in 1875-9 in the steamer Inter Ocean, at that time probably the most famous steamer on the lakes; 1880-2 in the Glasgow, and in 1883-9 in the propeller D. C. Whitney. In 1890, Mr. Phillips joined the Ogdensburg, or Central Vermont Line steamer, William Averill, and in 1891 the modern built steamer James R. Langdon, of the same line, where he now is, and likely to remain for many years in active service between Ogdensburg, N. Y., and Chicago, Ill.

Mr. Phillips is a native and resident of Alexandria Bay, N. Y., at which port he has a host of friends, who admire the integrity of purpose, and honest, manly, active life of their esteemed townsman, whom they have welcomed home each winter after he had undergone the usual trials and vicissitudes of lake service, and gave him their hearty wishes for a successful season when he took his first departure from the port each spring. In the forty years of service Mr. Phillips has served on fourteen steamers, and wherever he has traded to all those who have gained his acquaintance speak in high terms of his character as an engineer, so that Alexandriaites but share the esteem in which our veteran friend is held by the citizens of other ports and the sailing community. With such an unbroken record and the present indications of a rugged constitution, it is quite likely that Mr. Phillips has many years of active service yet before him, and it is certainly the wish of his many friends that in the autumn of life he may be permitted to rest under the "shade of his own vine and fig tree," where, with good ground tackle, he may be well moored and enjoy all comforts with his loving and trusting consort, who for many years has patiently anticipated the opening and awaited the close of navigation each season.

JOHN N. PHILLIPS.

THE GRADUATION OF THERMOMETERS.

Nearly all thermometers are graduated in one of three ways, the Reaumur, Fahrenheit and Centigrade systems.

Reaumur and Celsius (Celsius devised the Centigrade scale) placed their thermometers in freezing water, and called the place where the mercury stopped "zero." They then placed them in boiling water and marked the place where the mercury rose "boiling point" but in numbering this point they differed. Reaumur marked the boiling point 80° on his thermometers, and he divided the space between this and the freezing point into 80 equal parts or degrees. Celsius marked the boiling point 100° and divided the space between this and the freezing point into 100 equal parts or degrees. Fahrenheit marked the same two points and divided the space between them evenly into 180 parts or degrees, and continued the scale in both directions with degrees of the same length. For some reason he choose his "zero" at the thirty-second graduation mark below the freezing point, so that on his scale the freezing point is at 32°, and the boiling point at 32° + 180°=212°. Of these various systems of graduation, the Celsius or Centigrade are very gradually coming into favor on account of its simplicity. We often see a thermometer with both the Centigrade and Fahrenheit scales on it, one each side of the tube, and the time will probably come when the Fahrenheit scale will give way entirely to the other, or perhaps both will give way to some better system that some one may devise in the future.

MARINE ENGINEERS' WAGES.

In a parliamentary paper on "The Progress of Merchant Shipping" there is a table which shows the wages of engineers on different classes of steamships over a period of years. It appears from this that for vessels of and above 2,000 tons the monthly pay of first engineers was for 1855—the first year recorded—on the average £21 1s. 4d; but it fell in successive years until it reached £17 10s. 8d; and from that rate it has fluctuated a little upwards. It is to be added that there are known to be a few instances of chief engineers who receive £25, "or even more; but these, being special cases, have not been included in the average." From 1880 up to 1887 there was an increase in the rate, the average for the last-named year being £19 5s. per month; but it fell during three successive years, whilst in the past year it would seem from the parliamentary paper that the average rose again to £19 5s. The rates paid to other engineers—second and third—moved in the average somewhat similarly, and so in the cases of smaller vessels; so that it would seem that the rates of wages rise and fall with the condition of the shipping industry, whilst a further corroboration is given to that conclusion by the knowledge of the fact that there is now in course of arrangement some reduction of the wages of engineers in certain types of steamships, both in Cardiff and in the northeastern ports. The same return gives a table of the rates of wages that have been paid on the average to firemen, and it is noteworthy that the wages paid to the "leading firemen" were for the past year about the highest, and in some instances actually the highest that are recorded in the list which usually covers the period from the year 1855. In the case of the steamers of and above 2,000 tons, the wages of the leading firemen averaged £4 7s. 6d. per month as far back as 1855, but for the past year they had risen to £5 5s. 2d., while those of firemen generally had risen in a somewhat similar ratio. Of course the transference of so large a portion of the British merchant shipping from sail to steam vessels in that period must have greatly developed the demand for both engineers and firemen and thus the advance in the rate of wages is accounted for in degree, but there is no explanation of the reason for the unequal movement of the two classes in that time. In the early years it was more difficult to obtain men, but the years have seen the upgrowth of many and experience adds now yearly to the supply, whilst it is doubtful whether the demand is likely to know as rapid an increase in the future as it has done in the past, though combination now may affect the wage.

According to a scale signed by the north of England shipowners and the Association of Engineers, the scale that went into effect July 25th this year is as follows:

Suez Canal, South Atlantic, East and West Indies.—Chief, £16 5s. monthly; Second, £11 5s monthly· Third. £7 5s. monthly: Fourth (when carried) £6 5s. monthly.

North Atlantic.—Chief, £15 5s. monthly; Second, £11 monthly; Third, £7 monthly; Fourth, (when carried) £6 5s monthly.

Mediterranean and Black Sea (1,000 tons net register and under.)—Chief, £13 15s. monthly, £3 13s. 6d. weekly; Second, £9 15s. monthly, £2 13s. 8d weekly; Third, £6 5s. monthly, £2 0s. 3d. weekly.

Mediterranean and Black Sea (1.500 tons, net register and under—Chief, £14 monthly, £3 14s. 8d weekly; Second, £10 monthly, £2 14s. 10d. weekly; Third, £6 10s. monthly, £2 1s. 5d. weekly.

Mediterranean and Black Sea (above 1,500 tons net register—Chief, £14 10s. monthly, £4 1s. 8d weekly; Second, £10 10s. monthly, £3 1s. 3d. weekly; Third, £6 15s. monthly, £2 2s. weekly; Fourth, (when carried) £6 5s. monthly, £1 19s. 8d.weekly.

Baltic, Bilbao, and Bay Ports, Madeira, Canary Islands, Gibraltar, and White Sea (500 tons net register and under.)—Chief, £13 monthly, £3 7s. 1d. weekly; Second, £9 monthly, £2 7s. 3d weekly; Third (when carried) £5 15s. monthly, £2 3s. 2d. weekly.

Baltic, Bilbao, and Bay Ports, Madeira, Canary Islands, Gibraltar, and White Sea (1,000 tons net register and under.)—Chief, £13 10s. monthly, £3 12s. 4d. weekly; Second, £9 10s. monthly, £2 12s. 6d weekly; Third, £6 5s. monthly, £2 0s. 3d. weekly.

Baltic, Bilbao, and Bay Ports, Madeira, Canary Islands, Gibraltar and White Sea (above 1,000 tons net register.—Chief, £13 15s. monthly, £3 13s. 6d. weekly; Second, £9 15s monthly, £2 13s. 1d. weekly; Third, £6 15s. monthly, £2 2s. 7d. weekly.

Coasting and Ports between Elbe and Brest (steamers 70-horse power and over).—Chief, £3 5s. weekly; Second, £2 5s. weekly.

Suez Canal and Atlantic clauses to be inserted in articles of steamers signing on for Mediterranean. Three engineers to be carried on all steamers of 600 tons net register and upwards when sailing southeast or west of Gibraltar. Three engneers to be carried on all steamers of 850 tons net register and upwards when trading in the Baltic, Bilbao, and Bay Port trades, Madeira, Canary Islands, Gibraltar, and White Sea. Four engineers recommended to be carried on all steamers of 1,800 tons net register and upwards on any voyage. Engineer's steward to be carried on all steamers (who must sign on the articles as such, (except in those of 600 tons net register and under, when satisfactory attendance must be given to the engineers, their berths, etc.

The schedule of engineer's wages that went into effect on the lakes April 5, 1892, and to be continued throughout the season, divided into three classes, is as follows, per month for season:

1st Class.—Metal steamers having water bottoms and triple expansion engines, Chief Engineer, $115 to $125; 2nd Engineer, $75 to $80.

2nd Class.—Metal steamers not included in Class 1, and wooden vessels with triple expansion and with compound engines, except the smaller boats, which may be put in Class 3, Chief Engineer, $100 to $115; 2nd engineer, $70 to $75.

3rd Class.—Smaller boats with high pressure or low pressure engines, or with compound engines, covering all boats not included in the two former classes, Chief Engineer $80 to $100; 2nd Engineer, $60 to $70; Firemen, $35 to $40.

Oilers, (when carried), $30 to $37.50.

Firemen—fitting out and laying up, $1.50 per day and board themselves.

The Marine Record,

ESTABLISHED 1878.

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IRVING B. SMITH. }
CAPT. JOHN SWAINSON. } - - - Proprietors.

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THOMAS WILLIAMS, Associate Editor.

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Invariably in advance.

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CLEVELAND, O., SEPTEMBER 1, 1892.

With this issue of the MARINE RECORD we launch out an enlargement of four extra pages, making a twenty-page paper of that which a decade ago contained but four pages. This record of steady advancement is due the increasing importance of the mercantile marine of the great lakes and we are enabled by our increasing patronage to enlarge and improve the favored organ of the lake marine fraternity to its present proportions. In taking this step we hold that the kind support and consideration which we have always received at the hands of our subscribers, the manufacturing marine interests and advertising patrons will be more firmly cemented, and our efforts to keep THE RECORD in the front ranks of marine journalism be duly appreciated. To our lake friends and the maritime interests at large we desire to say that we are grateful for numerous favors received; and to our contemporaries we offer a tribute of thanks for the many sharp corners which they have permitted us to steer clear of during our years of pleasant cruising in the ways of journalism.

LAKE LEVELS.

It is now a generally admitted fact that precipitation alone rules the level of the Great Lakes, and consequently the rise and fall, or the synonymous terms of ebb and flow, are not recognized features in the level of the lakes.

Tides, in the true acceptation of their meaning, do not exist, as the supply but reaches a certain level, when it is drawn off by the natural outlets; therefore, it is sheer nonsense to speak of spring and neap tides on the lakes. There can be no doubt, however, that a certain, though almost imperceptible fluctuation exists in the several lakes, the direction, velocity or causes for which has never yet been properly determined. This horizontal, as opposed to a vertical movement, is due to a regular and steady trend of currents in certain directions, which flow, no doubt, in accord with the economy of the universe, though modified, perhaps, by the enormous consumption of lake water used for artificial purposes, and by the natural process of evaporation continually going on, and it is probably this movement alone, which disturbes the surface equilibrum and induces an apparently vertical displacement outside of the atmospheric causes which from the barometrical readings is known to affect the levels. The entire system of surface currents, in connection with the physical geography of the Great Lakes, is now being inquired into by the U. S. weather bureau, and although the laws which govern the currents and meteorological conditions may not be clearly defined within a year or two, yet, praiseworthy efforts are being made in this direction.

COLLISION TACTICS.

The recent serious collision case between the North German Lloyd steamer Saale, and the Norwegian bark Tordenskjold, off the port of New York, calls forcibly to mind the collision tactics, or theory, pursued by some of the most experienced and skillful navigators.

In the case just cited, the master of the steamer, finding that a collision was inevitable, altered his course and speed, so as to bring his vessel head on, and with good force against the approaching vessel, realizing that a large steamer might ram into a wooden vessel and sustain less injury than by making the contact in any other way.

Whatever objections the weaker vessel might have to such a proceeding, the manoeuvre is fraught with less danger than might be considered possible by the casual observer, though it is somewhat remarkable that the officer of another steamer in the same line was called upon to exercise similar tactics in the case of the ship Fred. B. Taylor, in collision with the Traave, last July.

Many steamboat officers maintain that this is the only safe course when a collision is inevitable, and such would appear to be the correct mode of reasoning, providing, that both vessels were of unequal strength and proportions, and especially as between steam and sail; for if the sailing vessel should collide with the steamer, or strike her in the wake of the machinery, the probabilities are that both vessels would be seriously damaged, and in the case of a passenger steamer, a large number of lives might be lost, as well as property sacrificed. By working full speed ahead, and hitting end on, the steamer, by her superior weight and momentum, can cut her way through to comparative safety; and as we have said, in the case of passenger steamers, the officers generally understand that it is safer to run into a vessel than be run into, and no doubt the majority stand ready to act accordingly The international "Rules of the Road" gives a free license in imminent cases of collision.

QUARANTINE REGULATIONS.

Every possible precaution and safeguard should be brought into force to prevent the importation of the dreaded cholera scourge now epidemic on the continent of Europe. Already there are rumors to the effect that the pestilential influence has reached these shores, and it is only by the closest scrutiny and circumspection of all transportation companies, ably assisted by the government officials, that the scourge can be kept from spreading. The Secretary of the Treasury, as well as the Dominion authorities have issued special quarantine regulations for vessels carrying passengers from infected localities, and while no undue excitement or scare need be indulged in, it behooves the officials of all passenger lines to watch closely for any indications of the disease.

It is to be expected that those who are blessed with a share of this world's goods, will try by all means in their power to get away from the infected districts, and their attention may be directed to the United States as a place of safety. In such an event the quarantine regulations on our eastern seaboard can not be too strict.

As far as the lake ports are concerned, it is questionable if any quarantine regulations exist in a majority of the ports, so that few, if any minor safeguards can be thrown around the transportation of passengers on the lakes, nor is it probable that any quarantine regulations need be enforced, yet, such ports as have not already embodied preventive measures in their city ordinances, should take advantage of the present warning and frame such laws as would be applicable in the event of a future epidemic becoming prevalent nearer home.

It is possible that some action may be taken regarding freight from the infected districts, and especially from Hamburg, consigned to lake ports, as Prof. Huxley's protoplasm, or any of the other germ theories, not to mention the everyday term of common infection, may just as easily import a contagious disease through parcels of general freight being handled, as if it was carried here in the human system or on the apparel of infected persons. This feature ought to claim the attention of collectors of customs, and goods arriving from even suspected districts should be disinfected before being allowed to be cleared on the bills of entry.

A STATION FOR REPORTING PASSING VESSELS.

The United States Weather Bureau is now engaged in connecting Thunder Bay Island, Lake Huron, with Alpena, Mich., by submarine cable, an appropriation of $15,000 having been granted at the last session of Congress to enable the Bureau to establish display stations at Middle Island and Thunder Bay Island for the benefit of commerce. These stations will receive telegraphic news of warnings and storm signals from the Weather Bureau observer at Alpena.

This service, when perfectly organized, might be further utilized by authorizing the operators of the new telegraph line on these islands to telegraph hourly or semi daily reports of all passing vessels bound up or down Lake Huron.

Further than this, we may state that as the rules of the lighthouse establishment already require keepers to furnish a quarterly abstract log of the number of passing vessels, the extra duty of reporting daily passages in the event of the display men ignoring this public, duty would not be onerous considering the vast amount of good the information might encompass.

With the co-operation of the life-serving service at these important points, and a proper display of storm-warning signals, there is an opportunity for much good to result to the mercantile marine of the lakes if the service is intelligently operated, and without undue friction arising between the departments. In any event, over thirty miles of an exposed and much traveled coast line will be thoroughly covered by the life-saving service and assistance to any extent may be promptly summoned to vessels in distress in that locality.

Such a service is now in existence on the Atlantic Coast. At Point Jupiter, Fla., and Cape Henry, Va., and there can be no good reason advanced for not taking out of this important Lake Huron connection every commercial and maritime facility which the service is capable of rendering, and to do this any attempt at making a private arrangement with the service at Alpena should be strictly discountenanced, so that the entire lake marine may receive the full benefit of the official report of vessels passing the stations, which, as we have pointed out, may be rendered by either of the three departmental offices stationed there, although the Weather Bureau, having instituted the service for the express purpose of facilitating commerce will no doubt furnish all possible information from the Alpena station, yet, there is no provision made, nor, in so far as we are aware of, has the idea yet suggested itself, to make of these outlying stations a point for reporting vessels, such as is done at Brow Head, on the coast of Ireland, and at other places. Through the multiplicity of advantages, and without the special duty being assigned, the opportunity for reporting vessel passages at Thunder Bay Island may be lost sight of, and, like the man sitting on the floor, with ample seating capacity unutilized alongside of him, the three essentially marine departments may move along without exercising a due vigilance over their surroundings in the matter of recording vessel passages, unless energetic steps are taken to seek for and disseminate the reports by either of the well qualified sources stationed there, and it is on this account that we would suggest the exchange of departmental courtesies, so that the best interests of the services might obtain concurrently with the securing of information of direct importance to the entire lake marine.

THE TWENTY-FOOT CHANNEL.

It is not the intention of the Chief of Engineers U. S. A. to take any active steps in the twenty foot channel project authorized by the last session of Congress until early next spring, The specifications for the work are rather more extensive than is usual in ordinary river and harbor projects, and for this reason more time is required in their preparation. Major Adams, acting chief of engineers, is quoted as saying "that the specifications when prepared will be submitted to the engineer in charge of the district, and that the advertisement inviting proposals will probably be published for a longer period than usual owing to the fact that a contract to the amount of nearly $3,000,000 is authorized. This will preclude the possibility of any work upon this much needed improvement this year, but the contract can and will be awarded so as to have work begin as soon as the ice breaks up next spring."

THE PASSENGER STEAMER CHICORA.

(ILLUSTRATED.)

The large photo-gravure supplement showing a night scene of the new passenger steamer Chicora, presented to our subscribers with this issue, is taken from a painting by Howard Sprague, exclusively for THE MARINE RECORD.

The Chicora is a handsome wooden passenger steamer, built by the Detroit Dry Dock Co., to the order of the Graham & Morton Transportation Co., of Chicago, for service on Lake Michigan. Her general dimensions are 217 feet over all, 40 feet extreme beam, and 15 feet molded depth. Her engines are of the triple expansion type; diameter of cylinders, 20, 33 and 54 inches, by 42 inches stroke; boilers of the Scotch type, 14 feet in diameter by 12 feet long.

The reputation of her builders is synonymous with excellent work in iron, steel, wooden or composite shipbuilding, and the construction work of the Chicora is fully up to their usual standing. She is diagonally steel strapped, and carries the strong steel arch along the head of the frames, placed on all the wooden tonnage built by the Detroit Dry Dock Co., and which the company first originated, patented and now collect royalty on wherever used in the United States.

The new steamer is fitted with a patent steam windlass and capstans, and all modern appliances to expedite the handling of the vessel, besides being schooner rigged, with a fair spread of fore and aft canvas. Her interior fittings are superb, and no expense has been spared in making her the most handsomely fitted boat in the trade on Lake Michigan, the decorative part being on a par with the excellence of construction. The main saloon is a commodious arched chamber 190 feet in length and 30 feet wide, finished in mahogany, and abundantly, yet elegantly furnished with tapestry, carpets and Turkish rugs. She has state room accommodations for 250 saloon passengers, and a total passenger license for 1,200 persons. She has already been placed on the route between Chicago and St. Joseph, making daily trips between those ports with the same company's

steamer, City of Chicago. Her speed record up to date is 63 miles in 3 hours, 21 minutes, or an average of 18 9-10 miles per hour, but there is little doubt but that after her machinery has been worked down smoothly, she will record a steady average of a mile an hour better, or say an even 20 miles an hour.

OBITUARY.

CAPT. A. W. REED.

It is our sad duty to chronicle the death of Capt. A. W. Reed on Monday night at the Marine Hospital, Cleveland, O, where he had moved from his ship, the Corrigan Line steamer Italia, about a week ago, suffering from a stroke of paralysis.

Last year Captain Reed experienced a slight stroke, but after a few weeks nursing he was able again to take command of his steamer and has apparently enjoyed good health up to the time of the attack, when, it was considered that a vacation from duty would again restore him to his wonted health. The all wise Pilot willed otherwise, and the well known seamen was summoned to his long watch below; although judging from his fine physique his system might have been guaranteed to withstand all shocks for many years to come.

Captain Reed was born in Illinois in 1834, but had lived in Sheridan, N. Y. during all of his active career, and now leaves a widow and three sons to miss the splendid characteristics of a loving husband and an estimable father. His sons are Captain A. H. Reed, W. A. Reed, and D. N. Reed. For the past several seasons Captain Reed has had command of the large steamers Australasia, Caledonia, and Italia, owned by Capt. James Corrigan, during which time he had gained the esteem of his owner, and the respect and good will of all with whom he was brought into contact. He was a fair type of the honest, manly character found in those who earn their livelihood by battling with the elements, robust, brusque and rugged; yet, withal, a gentleman under all circumstances. Perhaps one of the best known shipmasters on the lakes, and a member of the Cleveland branch of the Shipmaters Excelsior Marine Benevolent Association. The remains were sent to his late home at Sheridan, N. Y. on Tuesday, and THE MARINE RECORD extends its sympathy and condolence to the grieved family of our departed friend, with the full assurance that a large number of the sailing fraternity join with us in feeling that a competent seaman and true man has been called hence, and that the ranks are depleted by one who was always willing to help a brother member, was an honor to the profession, and whose place in the lake marine it will be impossible to fill.

LONGSHOREMEN'S ASSOCIATION.

The longshoremen of the great lakes who formed a national association at their recent meeting in Detroit, elected the following officers on Monday afternoon: President, Thomas McGovern of Buffalo; vice-president, Thomas W. Wilson of Saginaw; recording secretary, J. G. McKay, of Ashland; financial secretary, Jacob Schmid of Sandusky treasurer; Fred Huther of Sandusky, marshall; Charles Koehn of Cleveland, guard; Emil Schoffat of Toledo, executive committee; A. Stewart of Alpena; J. Fairfield of Toledo; D. McFadden of Saginaw; L. Kurth of Buffalo; J. Mc Loud of Au Sable, and E. Boyer of Tonawanda.

The object of the association is mutual benefit. "Having proved by experience" says the preamble, "that the system of loading and unloading boats by individual jobbers is one that robs labor of its wages, we have determined to use every legitimate means in our power to suppress it, and to give to every man an equal opportunity to secure work and receive the profits of labor."

They also took measures against non-union men, and decided that all locals connected with the National association charge boats in which such men are employed ten cents an hour for loading, and ten cents per thousand extra for discharging cargo.

STEAMBOATS TO BE INSPECTED DURING THE MONTH OF SEPTEMBER.

The annual inspection licenses for the following steamers in the Cuyahoga district expire on the given dates, and will be inspected by local inspectors DeWolf and McGrath:

Sept. 3—John B. Griffin.	Sept. 18—Arundell.
Sept. 3—Parks Foster.	Sept. 19—Robert E. Goodill,
Sept. 4—Annie Robertson.	Sept. 23—Cinda.
Sept. 4—John E. Monk.	Sept. 23—Myrtle.
Sept, 4—Mate E.	Sept. 24—Norman.
Sept. 12—Say When.	Sept. 24—Youghioghiogeny
Sept. 15—Caledonia.	Sept. 25—Gem.
Sept. 16—Carrie Martin.	Sept. 25—J. Ochs.
Sept. 16—Jessie Enos.	Sept. 25—J. L. Hudson.
Sept. 17—Yakima.	Sept. 28—Valley Mills.

Sept. 30—No. 51.

TO PIPE GRAIN FROM CHICAGO TO THE ATLANTIC SEABOARD.

A scheme is now on foot to pipe grain from Chicago to the seaboard, and Mr. T. L. Thompson, of that city, states that it can be done for 3 cents a bushel. Mr. Thompson said: "The scheme was suggested by a woman named Mrs. F. E. Beasly, of Chicago, and her study for the last year has been a method of transporting grain, or carrying it from Chicago to the Atlantic seaboard, for shipment to Europe, by means of pipe conduits. Continuous lines will be constructed, with ventilated service, twelve miles apart, and power stations twenty-five miles distant from each other for the rushing forward of the grain. The people interested have figured carefully and are convinced that a rate of 3 cents per bushel will be a profitable one. The estimated cost of such an initial line is $20,000,000 and the ultimate success of this novel but thoroughly practical service is said to be already in the nature of an assured fact."

GOVERNMENT DEPARTMENTAL PROPOSALS.

On page 10 of the current issue may be found advertisements inviting proposals for bids on work and material required in the improvement of rivers and harbors, both in dredging and construction work. Full instructions regarding the method of filling applications are contained in the notices, and a wide competition is always desired.

The General Superintendent of the U. S. Life Saving Service invites proposals for furnishing supplies required for use in his department for the fiscal year ending June 30, 1893.

THE FREIGHT SITUATION.

After some weeks of intermittent struggling between the ore and vesselmen, the rates have now reached a spot where they bid fair to remain for some time. Ashland tonnage, to carry ore all through September, has been placed at $1, and there are likely to be more contracts of this sort. Grain will begin, however, to affect the freight situation about the 20th, when better rates may be expected than those now ruling, providing that the season does not break up too early. The Marquette ore rate remains at 90 cents and the Escanaba rate at 70 cents

In spite of efforts of the coal men to pound the Escanaba rate back to 40 cents, they have not succeeded, and have give up trying this for the present. All tonnage placed for Escanaba or Gladstone receives 40 cents-The Milwaukee and Chicago rates are still wavering, the last boats chartered having gone in at 55 cents.

Grain, both at Duluth and Chicago, is in substantially the same shape as it was a week ago, The rates on wheat continue 2¼ cents from Lake Michigan and 3 cents from Duluth.

Lumber rates remain stationary for Lake Erie ports, although some very encouraging charters on cargoes of a particular nature are reported, There is a strong demand for boats, and lumber carriers are sure of all they can do. Taking everything into consideration lumber has been more profitable than any other class of coarse freight this season, barring, of course, the spasmodic labor troubles which existed only for a brief period of time at any port.

TO EVADE THE COLLECTION OF TOLLS.

The Canadians, with a view to evade the 20 cent tolls to be imposed in accordance with the terms of the President's proclamation, on and after the 1st of September 1892, on all Manitoba wheat shipped through the St. Mary's Falls canal, are proposing to ship in Canadian bottoms from Duluth to Port Huron, to be trans-shipped from that point by the Grand Trunk line through Canada. This matter being brought to the attention of the Treasury Department, Assistant Secretary Spaulding has sent the following explicit telegram to the solicitor of the Grand Trunk Railroad Company:

E. W. Meddaugh, Detroit, Mich.

Neither Manitoba nor domestic wheat can be carried in Canadian bottoms from Duluth to Port Huron as it would be in violation of our coasting laws. But if carried in American bottoms, it is not subject to tolls. If carried through the canal from Duluth to Sarnia for consumption in, or export from Canada, via. Montreal or any other port, it would be.

O. L. SPAULDING, Acting Secretary,

SCHOONER CAPSIZED.

The lumber-laken schooner, City of Toledo, from Manistee to Chicago, capsized on Tuesday 18 miles north of Manistee, off Pierport. Capt. McMillan, his two eldest daughters, and the crew, were lost. A northwest blow, and perhaps a too heavy deck load, are accountable for this sad loss of life within 300 yards of the harbor of Pierport, on Lake Michigan.

TRANSFER IN THE ENGINEERS CORPS, U. S. A.

Captain Clinton B. Sears, Engineer Corps, U. S. A. has been transferred by the Acting Secretary of War from the Battalion of Engineers, and the United States Engineering School, at Willet's Point, N. Y., to active duty at Duluth, Minn., relieving Captain Walter L. Fisk, on duty at that point. Captain Fisk is detailed to Willet's Point.

HARBOR IMPROVEMENT.

A meeting of the Harbor and Canal Improvement Committee of the Merchant's Exchange was held in Buffalo, on Monday, with Captain M. M. Drake presiding. The other members present were, James Ash, T. V. Carroll, Harris Fosbinder, J. N. Scatherd, W. C. Newman, and the Hon. D. N. Lockwood.

The subject taken into consideration was, the contemplated extension of the outer Buffalo breakwater to Stoney Point. After a long discussion the committee agreed to present a report on the matter to the Exchange at an early date.

OFFICIAL NUMBERS ASSIGNED.

The Bureau of Navigation, Treasury Department, Washington, D, C., assigned official numbers to the following lake built tounage during the month of August. Net tonnage only is given, Steamer Schuylkill, Erie, Pa,, 1,820 tons; W. B. Morley, Port Huron, Mich., 1,565 tons; E, A. Shores, Jr., Milwaukee, Wis., 296 tons; Seattle, Port Huron, Mich., 221 tons; Sparta, Grand Haven, Mich,, 14 tons; Cascade, Buffalo, N. Y-, 29 tons; E. C. Shafer, Buffalo, N. Y., 18 tons; E. G. Grosby, Grand Haven, Mich.' 42 tons; Louise H,, Milwaukee, Wis., 9 tons; William D, Cleveland, O., 26 tons.

FLOTSAM, JETSAM AND LAGAN.

Probably the largest raft handled this season on the lakes was one containing 91,700 pieces, brought toBay City from Georgian Bay. It scaled something like 10,000,000 feet, and three tugs handled it.

The schooner Mott reports that when about 15 miles above Long Point, last Friday, Robert Thompson, a sailor, fell from aloft, striking the rail, and falling into the lake. He did not rise. His home was in Aberdeen, Scotland.

The Peerless, owned by Col. Harkness, Cleveland, O., and one of the finest steam yachts on the lakes, is now on a Lake Superior cruise with her owner and a party of friends. Her length is 180 feet and she carries a crew of fifteen men.

The general rates of coal freights from Lake Erie during the month of August were 60@65 to Chicago and Milwaukee; 55 to Green Bay and Marinette; 65 to Racine; 60 to Menominee; 40 to Saginaw and Marine City; 50 to Sault Ste. Marie; 35 to Duluth, and 25 to Toledo and Detroit.

The Maritana and Mariposa, of the Minnesota Steamship Co., and the two largest carriers on the lakes, have loaded their first cargoes of ore at Two Harbors. The Maritana loaded 3,220 tons, while the Mariposa took 3,053 tons on an inch more draft. The custom house measurement of the two boats differs but seven tons, and the only way to account for the difference in carrying capacity is in the construction of the hulls and the material put in them.

The yacht Wahpiti, owned by Sibley & Bearinger, and so widely reported as being lost with all hands, is all right. George W. Shomm, a half-breed, spread the report on account of his being discharged for inattention to duty. The canard reached the hands of the News Association, and without making any further inquiry, the supposed casualty was telegraphed all over the country, only to be contradicted by the safe arrival of the yacht at Collingwood, Ont.

No less than eight applications for the vacant position of superintendent of the Buffalo life-saving district, caused by the death of the late Capt. D. P. Dobbins, have been received at the life-saving department in Washington, and the contest is becoming quite warm. It is very probable that General Superintendent S. I. Kimball, before deciding upon a recommendation, will examine into the subject carefully, and all that can be expected is that the promotion will be made from the ranks, and, if possible, by seniority of service.

The steamer H. D. Coffinberry, built by Arnold, of East Saginaw, in 1874, and owned by E. M. Carlton, of Cleveland, became unmanageable in a gale of wind on Lake Huron last Thursday, through her boilers fetching away, and she was finally beached to prevent her foundering. She is reported hogged and badly strained through pounding on the rocky bottom. She is loaded with soft ore, and every effort was promptly made to lighten her cargo and get the vessel floating again, which was successfully accomplished, and the steamer towed into Sand Beach, where temporary repairs were put on her.

THE SAD STORY OF THE SHARK AND THE BUOY.

Carlyle Smith in Harpers Young People.

"I think," said the shark, as he sharpened his tooth,
"That whistling buoy doth whistle too much.
The tune that he whistles is very uncouth,
And might have been writ by a man in Duluth,
Whose knowledge of mus c is heavy and Dutch.

"He whistles all night, and he whistles all day.
He hangs on one note 'til he drives me nigh mad.
He whistles it too in the dreariest way,
And pays no attention to what we all say—
I think him a strangely rude sort of a lad.

"Complaints by the whale he has always ignored;
The critical shad he has ever disdained.
The whale of the sea is the monarch, the lord,
The mind of the shad with great learning is stored—
His treatment of these the whole ocean has pained.

"And I have resolved that the nuisance must end;
The whistling Buoy must whistle no more.
His proud iron will to our wishes must bend—
His manners disgusting I'll force him to mend.
I'll bite him in two—nay, I'll bite him in four!"

The shark then swam out where the big Buoy stood,
To chew him all up and to make him behave,
He opened his mouth just as wide as he could,
He snapped at the buoy, as he said that he would,
Then sank out of sight 'neath the rippling wave.

Poor Shark! All his teeth—every one, good or bad—
Broke off as they struck on that Buoy so red.
The Buoy went on with his whistling sad;
The shark never spoke, for the voice that he had
Could utter no word now his molars were sped.

And strange to relate, now his mouth's so misshaped,
No sound can he utter except a small hoot,
Which, when from his throat it has fully escaped,
And over his pa'ate and tongue it has scraped,
Is just like the Buoy's sad tootling toot.

THE DIAL OF A WATCH AS A COMPASS.

A correspondent writing to *Fairplay*, London, calls attention to the rule of thumb inaccuracies, contained in an article widely published, wherein a watch is made to do duty for an adjusted compass, as regards time and bearings.

The fallacy of the statement was pointed out some time ago in these columns, yet the educational features contained in the following excerpt are worthy of reproduction. The writer says: "I fear the methods are not reliable, from the fact that no reference is made to the sun's declination: and it is *assumed* that the sun is east at 6 a. m., and west at 6 p. m. It is true that the sun is *south* every day at *apparent* noon only, no matter what his declination is, but only twice a year is he east at 6 a. m., and west at 6 p. m., i. e., at the Equinoxes, 20th and 21st March, and 22d and 23d September, by *apparent* time, or in other words, at these dates only the sun rises true E. at 6 a. m., and sets true W. at 6 p. m. But at these dates the watch, if set to local time, will be found seven minutes *fast* and seven minutes *slow*, respectively, at sunrise and sunset, and the only dates in the year when the watch time and sun time fairly agree are about 15th of April, 14th of June and 24th December. But as the sun is constantly changing his declination, or distance from the Equator, it would be found that the watch, in the middle of June, at 6 a. m., or 6 p. m., would be about an hour wrong; while in our latitude the sun, from the end of September till beyond the middle of March is never either east at 6 a. m. nor west at 6 p. m. If I am correct in this, the 'method' is faulty, as applying to the watch to obtain direction. Nevertheless, with a good compass, the approximate error of the watch may be found at any time by the sun's azimuth, when that luminary can be seen as by a sundial."

BOILER PITTING CURED BY GRAPHITE AND OIL.

In the *American Machinist* of July 28, Mr. T. T. Parker, has a very interesting column article regarding pitting in boilers. Besides some clever theories, he has this to say from a practical point of view: "A boiler of the porcupine persuasion pitting was found in the mud drum. Acting under advice, the drum was cleaned and scraped, after which it was painted with graphite mixed with cylinder oil. Measurements of the depth of the pits were taken, and six months after they were found no deeper, and no new ones had shown up. Other parties have since tried this experiment in mud drums, but it is too early as yet to give the result. However, knowing the character of plumbago, if the interior of a boiler could be painted with it in such a way that it would stay it may be this would prove a remedy. I am satisfied also that the person doing so would kill two birds with one stone, as the scale could be easily detected. In a pair of cylindrical boilers 42 X 28 occasional applications of cylinder oil (mineral) and plumbago has kept back corrosion on a trial of six months. Boilers were new when plumbago was used. The boilers which the new ones replaced were thrown out rotten from corrosion. The feed was mine water as nothing else could be had."

In addition to Mr. Parker's remarks we add that, Messrs. Harig, Koop & Co., Louisville, Ky., after experiencing more or less trouble from rust and scale in the mud drums of their boilers, applied with great success graphited oil, purchased from the Joseph Dixon Crucible Co., Jersey City. The mud drums were cleaned out and the graphited oil applied with swab, brush or anything handy to the joints and parts where the water enters the drums. Every four or six weeks this process is repeated with the most gratifying results.

A NOVELTY IN STEAM WHISTLES.

The illustrations herewith show a new improvement in steam whistles. As will be seen by Fig. 1, the central stem is done away with, and instead of the usual square top with acorn, is a dome shaped. The bell or dome is securely fastened at its

FIG. 1.

lower end to a three-armed prong or spider, the stem of which is threaded to admit of being screwed into the base and there held secure by a jam-nut. Owing to this construction the lower edge of the bell is always exactly in line with the slot in the base through which the steam escapes, insuring best results, and a perfect, clear and loud tone. The bell can be raised and lowered to suit the steam pressure by screwing it up or down, and when properly set is fastened by the jam-nut. It has been proved by practical tests that the prongs to which the bell is fastened do not in any way interfere with the volume or quality of the sound.

Referring to Fig. 2, this whistle known as a Combination or Fire Alarm Whistle, is provided with a piston that can be moved up or down within the bell or tube, thus changing the interior length of same, and consequently also the sound of the whistle. When the piston is not operated the whistle gives but one sound like any ordinary one, but when pulled up or down, a series of howling, penetrating sounds is produced. When placed above the roof of a building an extension rod

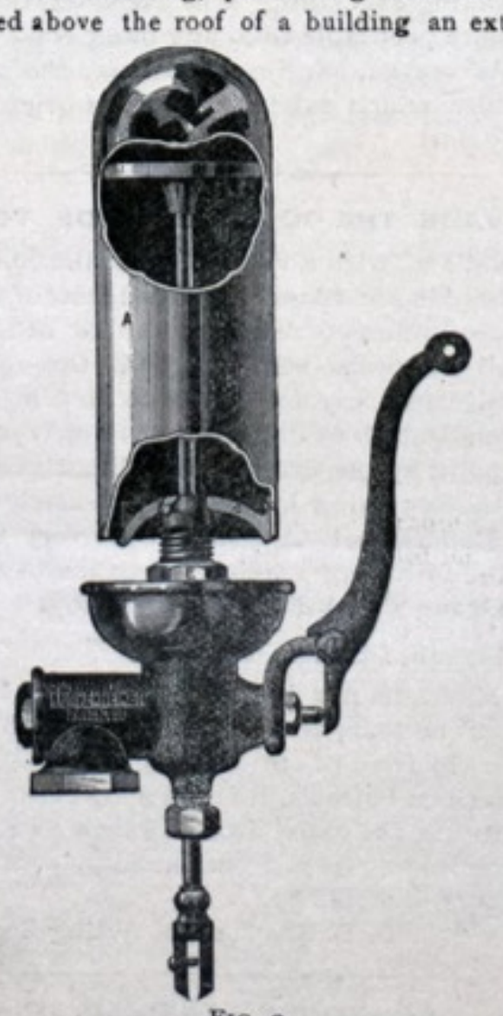

FIG. 2.

must be attached to the piston and a rope or wire to the whistle-valve lever. These whistles (Figs. 1 and 2) have an important advantage over the old style with central stem, for, being securely fastened at its lower edge, it is impossible for the tubes to crack.

These whistles are patented and are manufactured by the Lunkenheimer Brass Manufacturing Co., of Cincinnati, Ohio.

A NEW PASSENGER STEAMER FOR LAKE ONTARIO.

Mr. John Foy, manager of the Niagara Navigation Co., Toronto, Ont., is having plans and specifications drawn out for a handsome new steel passenger steamer, to be ready for business on Lake Ontario next summer. The length of the new steamer for which the plans are being prepared is 310 feet, with a guaranteed speed of twenty miles an hour. Mr. Frank E. Kirby, naval architect and consulting engineer, Detroit, has been engaged looking over the requirements for such a steamer and when the entire plans are completed, the new contract will, it is said, be given out to a Lake Ontario shipbuilder, although it is questionable if there is a plant in that vicinity capable of constructing a high class modern steel steamer of such dimensions.

PROPOSALS.

U. S. ENGINEER OFFICE, HICKOX BUILDING, 185 Euclid Avenue, Cleveland, Ohio, August 15, 1892. Sealed proposals for dredging in straight channel through Maumee Bay, for Toledo Harbor, Ohio, will be received at this office until 2 o'clock p. m. of Thursday, September 15, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. JARED A. SMITH, Lieut. Col. Corps of Engineers, U.S.A. 9-1-15

U. S. ENGINEER OFFICE, 34 WEST CONGRESS ST., DETROIT, MICH., August 17, 1892. Sealed proposals for: 1, Dredging Black River, at Port Huron, Michigan: 2, Dredging mouth of Black River at Port Huron, Michigan, will be received at this office until 2 p. m. September, 16, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. O. M. Poe, Colonel Corps of Engineers, etc. 8-18-9-8.

U. S. ENGINEER OFFICE, DETROIT, MICH., August, 16, 1892. Sealed proposals for: 1. Dredging bar at mouth of Saginaw River, Mich. 2. Dredging Essexville bar near mouth of Saginaw River. 3. Dredging west channel along West Bay City, Mich. 4. Dredging channel of Saginaw River above Bay City, Mich., will be received at this office until 2 p. m. September 15, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application at this office. O. M. Poe, Colonel Corps of Engineers &c. 8-18-9-8.

U. S. ENGINEER OFFICE, 366 MILWAUKEE ST., MILWAUKEE WIS., Aug. 12 1892. Proposals, Harbor Improvements, Lake Mich. Sealed proposals for Green Bay Harbor, Wis., Dredging 120,000 cubic yards, more or less. Sheboygan Harbor, Wis., Pier Extension 200 feet with Superstructure. Port Washington, Harbor, Wis., Pier Extension 100 feet with Superstructure. Harbor of Refuge, Milwaukee, Wis., Extending Breakwater 500 feet, and 300 feet of Superstructure. Milwaukee Harbor, Wis., Cutting down and rebuilding 200 feet of Superstructure; repairing 250 feet of piers, and taking out and replacing with new 264 protection piles. Racine Harbor, Wis., Pier Extension 250 feet, and repairs. Kenosha Harbor, Wis., Pier Extension 150 feet. Waukegan Harbor, Ill., Pile Pier 376 feet, will be received at this office until 12 o'clock, noon, Monday, September 12, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. James F. Gregory, Major of Engineers, U. S. A. 8 18-9-8.

TREASURY DEPARTMENT, OFFICE of General Superintendent U S. Life-Saving Service, Washington, D. C., August 18, 1892. Sealed proposals will be received at this office until 2 p. m. of Saturday, the 17th day of September, 1892, for furnishing supplies required for use of the Life-Saving Service for the fiscal year ending June 30, 1893; the supplies to be delivered at such points in New York City, Grand Haven, Mich., and San Francisco, Cal., as may be required; and in the quantities named in the specifications. The supplies needed consist of Beds and Bedding, Blocks and Sheaves, Cordage, Crockery, Furniture, Hardware, Lamps, Lanterns etc.; Lumber, Medicines, etc.; Paints, Oils, etc.; Ship Chandlery, Stoves, etc.; Tools and Miscellaneous articles, all of which are enumerated in the specifications attached to the form of bid, etc., which may be obtained upon application to this office, or to the Inspector of Life-Saving Stations, 24 State street, New York City; Superintendent Eleventh Life-Saving District, Grand Haven, Mich., and Superintendent Twelfth Life-Saving District, Appraisers' New Building, San Francisco, Cal. Envelopes containing proposals should be addressed to the "General Superintendent U. S. Life-Saving Service, Washington, D. C," and marked on the outside "Proposals for Annual Supplies." The right is reserved to reject any or all bids and to waive defects, if deemed for the interests of the Government. S. I. KIMBALL, Gen. Supt. 8-25-9-8